

September • 1951

SPECIAL SECTION
HOME LAUNDRY EQUIPMENT INDUSTRY

finish

Metal Products Manufacturing

FROM RAW METAL TO FINISHED PRODUCT



"Ceramic" LOOKS AHEAD



IN PERIODS of shortages it becomes more important than ever to anticipate future wants and prepare for them. "Ceramic" maintains constant inventory control of chemicals and, on the basis of past experience, does everything possible to maintain stocks of all essential items. Where demand exceeds supply, its policy continues to be one of fair apportionment among those who have depended upon us in the past.

COLORS: Color Oxides; Screening Colors; Smelter Color Compounds; Printing, Graining, Stamping, Banding and Decalcomania Colors.

CHEMICALS

Aluminum Hydrate
Ammonium Carbonate
Antimony Oxide
Antimony, Black Needle
Arsenic Oxide, White
Barium Carbonate
Barium Chloride
Barium Molybdate
Bentonite
Bone Ash
Borax
Boric Acid
Cadmium Carbonate
Cadmium Sulphide
Calcium Carbonate
Cerium Hydrate
Chromium Oxide
Clay, Enamellers'
Cobalt Carbonate

Cobalt Compounds
Cobalt Nickel
Compounds
Cobalt Oxide
Cobalt Sulphate
Copper Oxide
Cryolite
Epsom Salts
Feldspar
Flint
Fluorspar
Gum Arabic
Gum Tragacanth
Iron Chromate
Iron Oxides
Lead Chromate
Red Lead
Litharge
Lithium Carbonate

Lithium Metasilicate
Magnesium Carbonate
Manganese Dioxide
Molybdenum
Compounds
Nepheline Syenite
Nickel Oxide, Gray
Nickel Oxide, Black
Nickel Sulphate
Opax
Potassium Bichromate
Potassium Carbonate
Potassium Nitrate
Potassium Silico Fluoride
Powder Blue
Pyrophyllite
Rosin
Rutile, Powdered
Soda Ash

Sodium Aluminate
Sodium Antimonate
Sodium Bichromate
Sodium Fluoride
Sodium Nitrite
Sodium Silicate
Sodium Silico Fluoride
Superpax
Talc
Tin Oxide
Titanium Dioxide
Urea Crystals
Whiting
Zinc Oxide
Zircon, Milled
Zircopax
Zirconium Silicate
Zirconium Oxide

SUPPLIES: Screening Oils; Screening and Spraying Equipment; Lining Blocks, Porcelain and Silex; Porcelain Balls; Rounded Flint Grinding Cubes; French Flint Pebbles; Ball Mills, Laboratory and Production; Porcelain Jar Mills, Laboratory and Production; Paste Grinding Mills.

CERAMIC COLOR & CHEMICAL MFG. CO.
NEW BRIGHTON P.A.

ARMCO—pioneer in the development
of a special-quality iron for fine
Porcelain **ENAMELING**—continues
to pioneer in research, improving its products
so that better Enameling **IRON** will
be ready for you tomorrow.



ARMCO STEEL CORPORATION

241 Curtis Street, Middletown, Ohio
Export: The Armco International Corporation



Chemicals for industry and laboratory

HARSHAW CHEMICAL

Supplies
INDUSTRIAL CHEMICALS



**Electroplating Salts
Anodes and Processes**



**Preformed Catalysts
Catalytic Chemicals**



**Driers
and Metal Soaps**



**Synthetic
Optical Crystals**



**Ceramic Opacifiers
and Colors**



**Agricultural
Chemicals**



Fluorides



**Chemical
Commodities**



Glycerine



Fungicides

THE HARSHAW CHEMICAL CO. CLEVELAND 6, OHIO

Cleveland • Chicago • Cincinnati • Detroit • Houston
Los Angeles • New York • Philadelphia • Pittsburgh



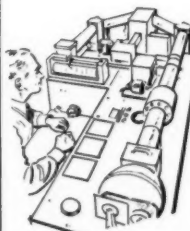
HARSHAW SCIENTIFIC

DIVISION OF THE HARSHAW CHEMICAL CO.

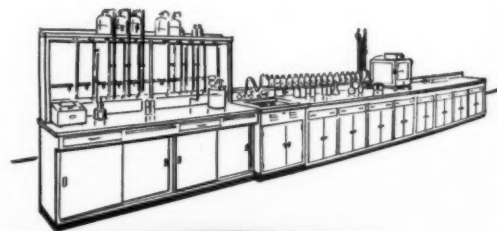
supplies
**LABORATORY APPARATUS
AND CHEMICALS**



Harshaw Scientific Division of The Harshaw Chemical Co., is a logical expansion of Harshaw's progress in the chemical field. Laboratories need apparatus and chemicals to carry on their work. Harshaw Scientific supplies their needs. The Harshaw Chemical Co. supplies industrial chemicals when laboratory developments are converted into practical applications.

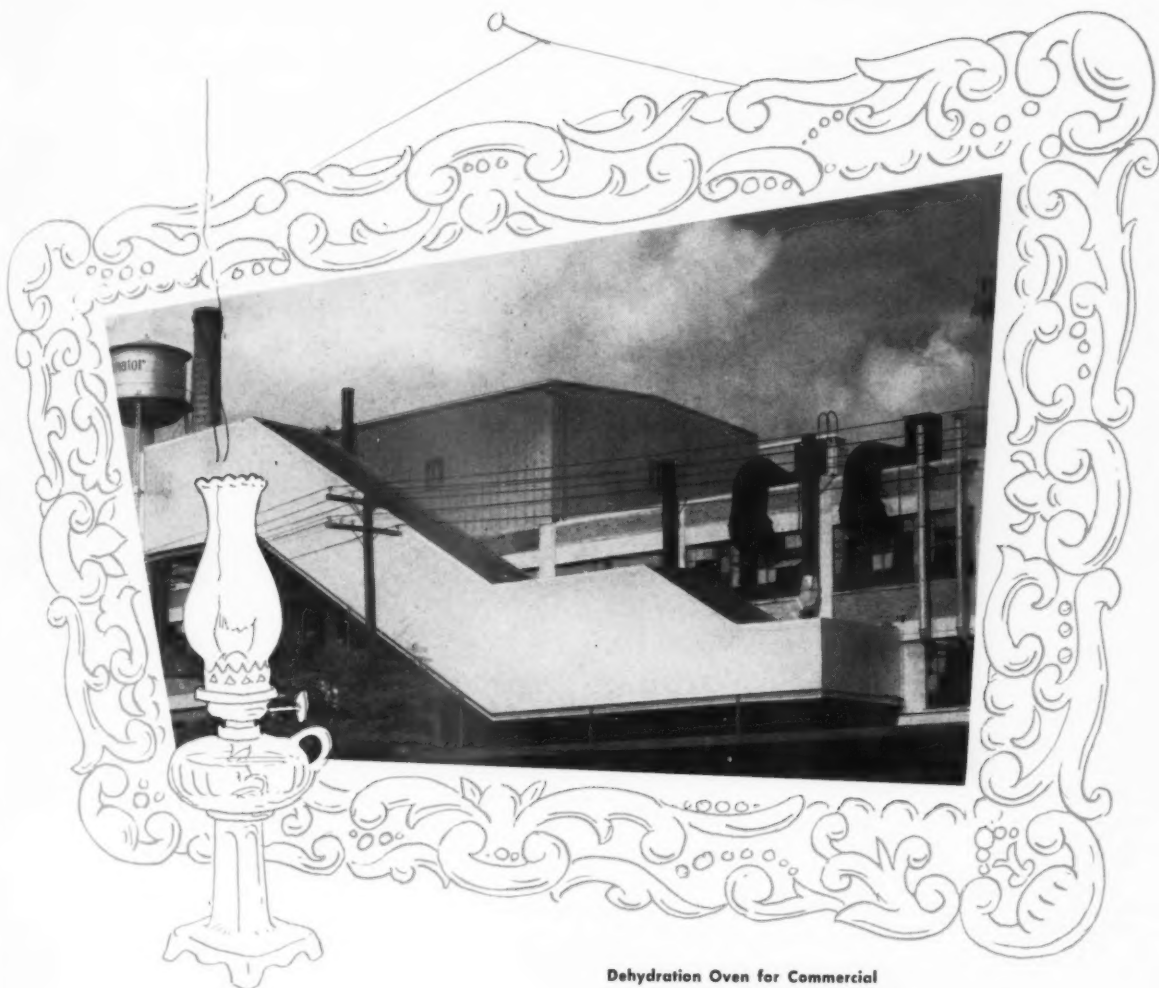


Thousands of items are carried in stock by Harshaw Scientific. Your requirements can be filled, whether you need chemicals and apparatus for a single experiment, or to furnish a complete laboratory. Branch offices and stocks are maintained in convenient locations to help you obtain your requirements within a short time.



HARSHAW SCIENTIFIC DIVISION OF THE HARSHAW CHEMICAL CO. CLEVELAND 6, OHIO

Cleveland • Cincinnati • Detroit • Houston
Los Angeles • Philadelphia



Dehydration Oven for Commercial
and Domestic Refrigeration Units

Portrait of an Oven Going Up-hill!

To the naked eye our picture seems to show a conventional ramp leading to an ordinary roof oven.

Look closely — the ramp is constructed of insulated panels.

Yes, this is a continuous oven from the time the part enters the tunnel until it comes down again — no waste travel.

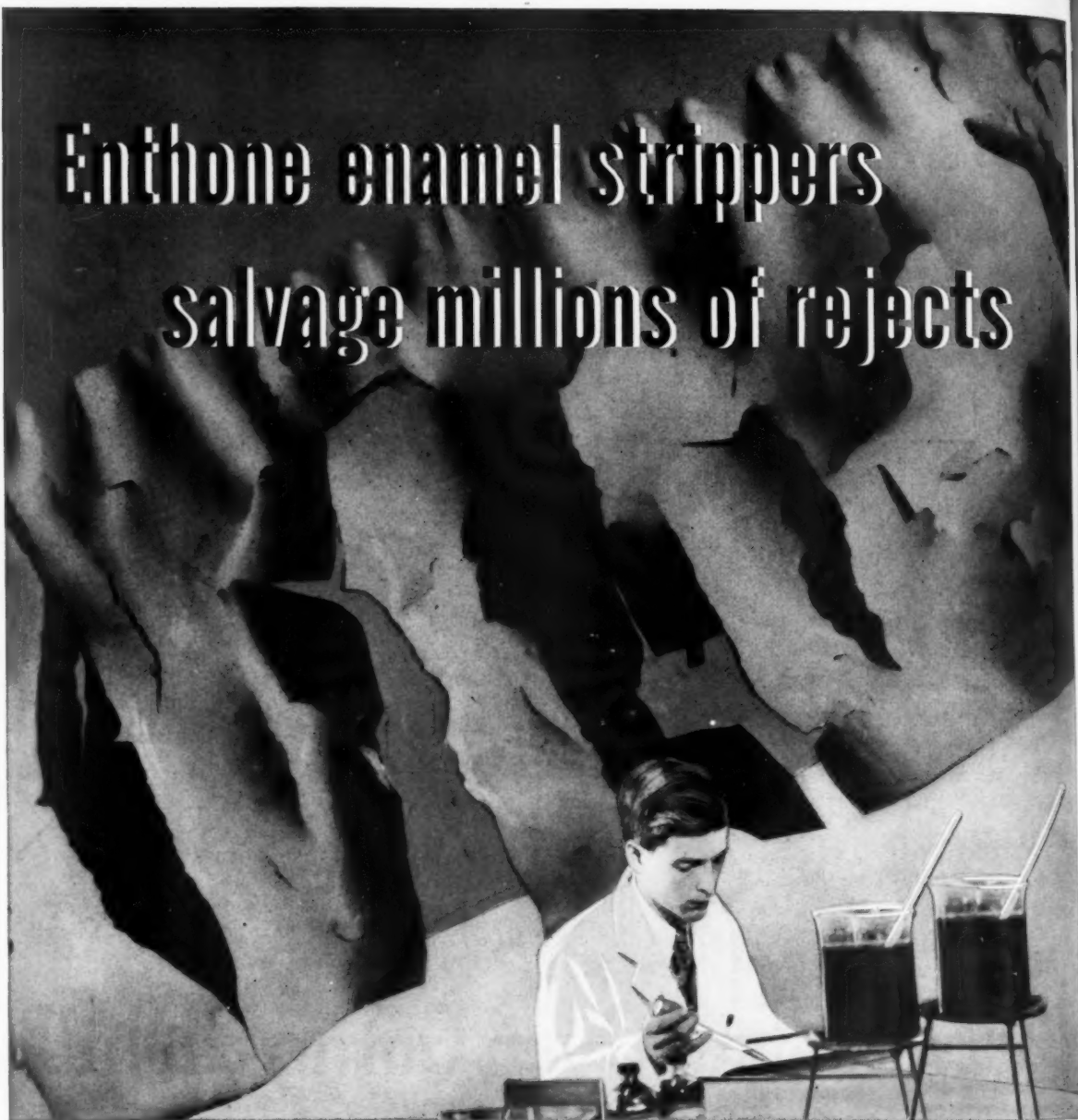
In this completely pressurized oven, the total air supply is fed to the roof proper and forced down the ramp.

The arrangement of the ductwork, the location of the exhaust, the design of the heat seals are but a few of the intricate problems that can only be handled by an experienced equipment builder.

17924 Ryan Road
Detroit 12
Michigan

peters-dalton
I N C O R P O R A T E D

Enthone enamel strippers salvage millions of rejects



ENAMEL STRIPPERS... Built to Order

Enthone's procedure for selecting scientifically the best stripper for paints, varnishes, lacquers or enamels is simple. You fill out a questionnaire and send it with typical samples of parts to be stripped to New Haven. Here, skilled chemists test the action of many production-proven strippers. If none of these meets the requirements, a new stripper will be developed. Our experience of 15 years in solving stripping problems is at your service.

Write for check list . . .

Sixty Products and Processes for Metal Finishing

©
ENTHONE
INCORPORATED

©
442 Elm Street, New Haven, Conn.

even a little steel

can make a
big difference



EVERY DAY it's more and more evident that even a little steel may keep a big plant's production line going in a pinch until the next big shipment arrives.

If you have D.O. orders for steel and can use our superior hot rolled products we may be able to schedule limited steel tonnage for you to help you keep going at full blast.

Please remember, we said—"we *may* be able to help"...Tell us your minimum requirements and we'll let you know promptly if we can assist you.

**Superior
specializes
in:**

**Hot Rolled Acid Pickled
Galvanized
Galvannealed
Long Terne
Silicon (Electrical Sheets)**

Mill Limits 6 to 30 gauge • Widths up to 48"—Lengths up to 144"



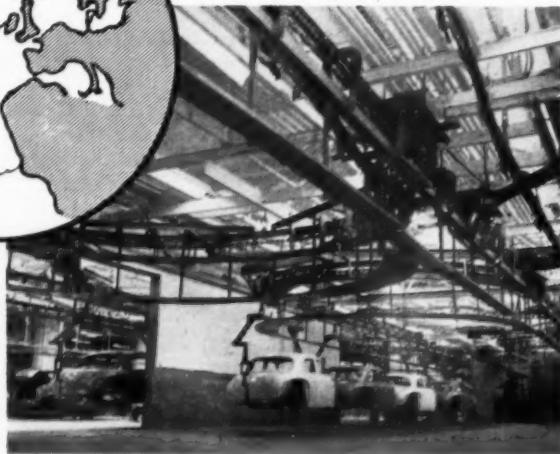
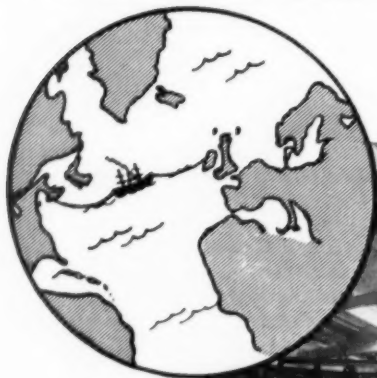
*Look to Superior
for Superior Quality*

**Superior Sheet Steel
DIVISION**

**THE PARKERSBURG STEEL COMPANY
Louisville, Ohio**

The **FIRST** Cable to link the Old and New Worlds

was completed by Cyrus W. Field, Aug. 5, 1858—
revolutionizing then exist-
ing communications.

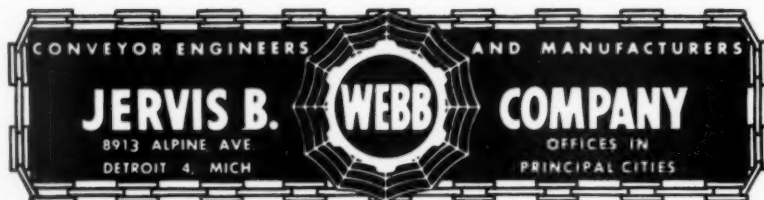


JERVIS B. WEBB COMPANY
was the **FIRST** to develop
POWER and FREE CONVEYORS
—an outstanding development in materials handling.

More important than movement from "here to there" is the "pacing"—the setting up the movement of materials so the operators can work in rhythm. Webb Power and Free Conveyor Material Handling Systems give this "rhythm"—yet allow off-the-line placing of loads to desired points without interrupting the flow. They reduce costs, increase efficiency and productivity.

Offering complete flexibility in meeting production problems, Power and Free Conveyors can be tailor-made to your requirements—for any plant large or small. Some of their advantages include:

- Loads are pushed, rather than carried, on Webb "Power and Free Rail" conveyors.
- Manual or automatic switching of loads either from or to the main "Power" line.
- Loads may be lowered vertically from the "Power" line . . . anywhere along the route.
- Automatic dispatching of loads to distant points by pre-setting carriers for a given destination.
- Accumulation of loads for "banks" by gravity from "Power" line to "Free" line eliminates floor storage space waste.
- Momentary stopping of loads anywhere along the route, by disengaging "Free" trolleys from "Power" pushers



From the Editor's mail..

"most helpful in our work"

Gentlemen:

Will you please add the name of Mr. C. Raymond Syer, our finish consultant, to your mailing list for "Finish". At the present time I am receiving a copy of this fine magazine and find it most helpful in our work with our products.

L. W. Evans
Vice President—Engineering
Rheem Manufacturing Co.
South Gate, California

interested in Safe Transit testing

Gentlemen:

I have been reading your magazine for quite some time, especially the articles on the National Safe Transit Program, and I was wondering if you could tell me where I can find the necessary equipment to test all of the shipping containers under this program. I am basically interested in where to procure the equipment, what it costs, and how to use it.

R. C. Laramy, Chief Engineer
American Gas Machine Co.
Albert Lea, Minnesota

(we certainly can, and we have)

Thank You P.E.I.

This message comes to *Finish* from the executive offices of the Porcelain Enamel Institute.

"Mr. Dadisman pointed out that the magazine *Finish* was doing a splendid job in publicizing the Porcelain Enamel Institute, and its many activities. The Committee concurred in praising this fine cooperation on the part of Dana Chase Publications. Mr. Meacham offered the following resolution:

"Resolved: That the Porcelain Enamel Institute through its Executive Committee, express to Dana Chase Publications its deep and sincere thanks for the fine spirit of cooperation with the Institute that has been extended by the magazine *Finish* and for the excellent publicity that it has accorded to the Institute and its activities.

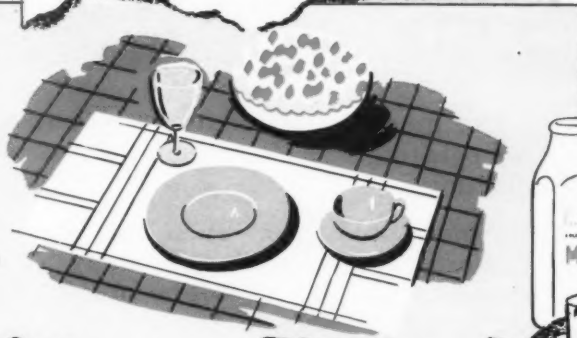
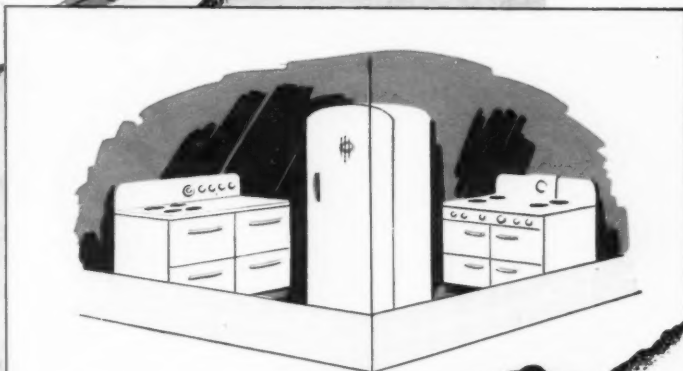
"This was seconded by Mr. McMillan and passed."

Finish is appreciative of this fine tribute to our editorial efforts. It is our pleasure to work with a number of fine cooperative organizations in the interests of their membership in the metal products field. We find these groups extremely helpful in serving our readership.



**Dependable,
Accurate
Frit and
Color Service**

OUR 60th YEAR



With today's costs, you can't afford to experiment on production jobs! Be sure . . . *be safe . . . be certain* that colors will be right. Entrust your problems to the company offering time-proved, accurate, dependable service in ceramic tile, porcelain enamel, pottery and glassware colors.

THE O. HOMMEL CO. PITTSBURGH 30, PA.

Pacific Coast Agent L. H. BUTCHER CO.

POTTERY, STEEL AND CAST IRON FRIT
• CHEMICALS • SUPPLIES

Our Technical Staff and Samples are available to you without obligation. Let us help you with your problems.

World's Most Complete Ceramic Supplier

ANNOUNCING THE NEW

Ransburg

NO. 2 *Electrostatic* P R O C E S S



AN *Amazing* DEVELOPMENT IN SPRAY PAINTING
IN MANY INSTANCES THE EFFICIENCY EXCEEDS **99%!**

It's the most revolutionary improvement ever developed in spray painting. It's electrostatic atomization and electrostatic deposition.

On most production lines, the No. 2 Process gives 25% to 75% more pieces per gallon than any other spray finishing system. And, the increase will be much larger over conventional hand spray methods.



- NO OVERSPRAY TO BE EXHAUSTED!
- NO COMPRESSED AIR USED!
- NO OPERATOR SKILL REQUIRED!

Write for a copy of our brochure describing the No. 2 Process in more detail, and including case histories of early installations where the No. 2 Process has been proven in production.

Ransburg

ELECTRO-COATING CORP. • Indianapolis 7, Indiana

RANSBURG

THE finish LINE



IT TAKES FORTITUDE— on the part of management in the appliance and other finished metal products producing plants to answer some of the current questions relating to the successful and profitable operation of these plants during the current period.

There are questions of "balance" in plant facilities, organization, and, last but not least, sales and merchandising policies, which are probably more critical at this time than during any recent period.

The No. 2 course is indicated

In production there are three possible courses for most manufacturing plants:

1. A complete transition to defense production
2. A reasonable balance between defense production and civilian output
3. The production and distribution of civilian goods only.

It is clear that the No. 1 course is not a safe one for the average manufacturing company, and certainly few manufacturers would want to disregard the desirability and necessity of considering defense work as mobilization and preparedness activities continue to expand.

This leaves the logical choice of a balanced production, that will help answer the requirements for defense products, while at the same time keeping the individual company and the general economy on a firm basis through maximum production and distribution of civilian output.

Stretching the organization

Plan No. 2, or the middle road, sounds very logical, but it calls on the best planning of management in order to "stretch" experienced personnel in management, production and sales to fit the dual problem presented. It has been done before, and will be done again, and the degree of success in answering this question may in many instances have much to do with the degree of success enjoyed by individual producing plants.

Emphasis on selling

As long as there is the possibility for a strong balance of civilian production among the plants producing home appliances and allied metal products, there must be a radical increase in the emphasis placed on sales and merchandising problems.

In a recent statement, J. J. Nance, president of Hotpoint, said, "If we take a good cold look at marketing,

I think we will have to conclude that it is probably the most doubtful element in American business today. . . . Almost no salesmen had been developed for two decades. . . . The first four postwar years were a continuous bonanza for order takers. Even those industries that tried found it almost impossible to develop real selling muscle in a market where the competition actually was among buyers instead of sellers."

Mr. Nance continued, "The same circumstances affected dealers and retailers, sales managers and advertising. After the war, dealers without experience flocked into business. Most sales managers, like their salesmen, either had never felt the hot breath of competition on their necks or had had it easy for so long that they had lost what it takes. Advertising, which had spent the war pounding its chest in institutional copy, and the years immediately after the war riding the boom, wasn't in any stronger position."

The weak from the strong

Here is a point where the fortitude of business management will be tested. For years we have had no real hard-pounding selling, and advertising has in many instances been a "name-building" process. Now, with the pressure off on appliance requirements, and with the problem changed to one of moving manufactured goods, sales and marketing policies are in for radical revision.

There is only one logical answer. It will take *more* sales dollars and *more* advertising dollars per unit to sell the manufactured products during the coming months than has been true for a long, long time.

Nevertheless, there will be those manufacturers who will attempt to *reduce* their sales and advertising costs as the clamor for merchandise ceases and the "automatic" sales decrease. As has always been true, this places the management with fortitude (backed by a sound financial situation) in position to step ahead with strong sales and advertising programs capable of outdistancing their weaker competition.

The coming months will be most important to the metal products industry as the decisions on these problems are made by management.

Dana Chase
EDITOR AND PUBLISHER

and tempo



Let PEMCO solve your technical problems

You have plenty of problems but porcelain enameling needn't be one of them. Let Pemco's laboratory technicians and engineers help you. Next to the quality of our materials, we pride ourselves on our service to the porcelain enameling and ceramic industries. Write, wire or phone today!

PEMCO

Copyright 1951, Pemco Corporation

"THE WORLD'S FINEST" PORCELAIN ENAMEL FRITS • GLAZE FRITS • PORCELAIN EN

years from now...
"Swi-s-s-sh"

AND IT'S GLEAMING CLEAN!

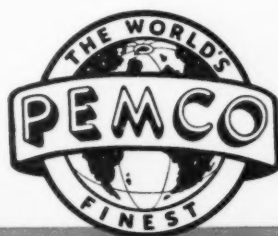
You know that when your product is porcelain enameled, it gives pleasure longer; for porcelain enamel is the everlasting finish. It can never discolor or lose its lustre. It is easy to keep spotless and beautiful because it is smooth as glass and hard as steel. Knowing this, you owe it to your product and to the integrity of your trade-name to provide the best porcelain enamel the market affords. With Pemco frit you can be sure. Pemco's continuous process of smelting assures you a frit of uniform quality so necessary to a successful porcelain enameling operation.

"After All, It's the Finish that Counts"

CORPORATION

5601 EASTERN AVE., BALTIMORE 24, MD.

"Always Begin with a Good Finish"

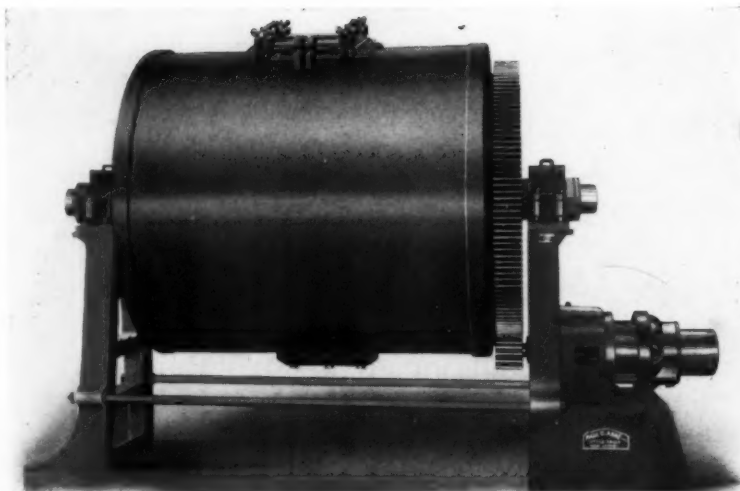


"Because Mills Are A Long-time Investment"

Profit by these exclusive features of

PAUL O. ABBÉ ALL-STEEL BALL and PEBBLE MILLS

- Cylinder ends of steel instead of iron castings.
- Trunnions one-piece alloy steel forgings.
- Cylinders electrically welded throughout.
- Drive mounted on solid assembly for smooth action and firm resistance to starting torque.
- Many other engineered features found only in mills designed and constructed by Paul O. Abbé of Little Falls, New Jersey.



Typical Paul O. Abbé All-Steel Mill with "Compact" Motor Drive and magnetic brake for inching. (Silent chain and V Belt Drives also available.)

Send for our Catalog U for complete facts concerning Ball and Pebble Mills, Jar Mills and Mixers for your complete grinding and mixing requirements.

PAUL O. ABBÉ INC

Specialists in Grinding and Mixing

377 CENTER AVENUE

LITTLE FALLS, NEW JERSEY

**Agents: PEMCO CORPORATION,
BALTIMORE, MD.**

METAL PRODUCTS MANUFACTURING



Shipments of household GAS RANGES totaled 1,315,400 units during the first half of 1951, 1.6% less than the same period of 1950, according to GAMA.

GAS-FIRED CENTRAL HEATING EQUIPMENT units shipped during the first six months of 1951 totaled 288,400, GAMA reports - 31.8% below the record-breaking shipments of 422,700 units in the first six months of 1950. June shipments totaled 37,200 units.

Factory sales of standard-size household WASHERS in June totaled 253,119 units, compared to 253,942 in May, down 22.2% from 325,217 sold in June 1950, according to AHLMA. Automatic DRYERS in June were up 23.6% over May, totaling 39,908 units compared to 32,292, and 94% more than 20,568 sold in June 1950. IRONERS sold in June numbered 24,500 units, 1.2% more than May with 24,200, and 9.6% below the June 1950 total of 27,100.

INTERNATIONAL TELEPHONE & TELEGRAPH CORP. has purchased COOLERATOR CO., Duluth, from Gibson Refrigerator Co. Fred Wilson, president of Capehart-Farnsworth Co., an IT&T subsidiary, has been named president of the firm, which will retain the Coolerator name. E. W. Skowbo and G. L. Rees, vice presidents, will remain with the firm. There will reportedly be no change in dealer-distributor set-up of the company, which now produces household electric refrigerators, ranges and home freezers; however, there has been some hint of expansion in production facilities and in the line of products.

SUNROC CO. is constructing a new plant at Glen Riddle, Pa., for manufacture of electric water coolers and purifiers to fill government orders. The firm was recently awarded three contracts by General Services Administration and a contract for equipment for the Naval Training Center at Bainbridge, Md.

A long-term contract valued at more than \$2,500,000 for manufacture of large naval aviation rocket motors has been awarded to YORK CORP., York, Pa. Stewart E. Lauer, president, reports York will continue manufacture of refrigeration and air conditioning equipment, with major emphasis on defense production.

REVCO INC., Deerfield, Mich., manufacturer of home freezers, has completed an expansion program adding 70,000 square feet of floor space. Officials report the firm has doubled its size and nearly quadrupled manufacturing output in the past five years.

RHEEM MANUFACTURING CO. has purchased controlling interest in JAMES GRAHAM MANUFACTURING CO., Newark, Calif., for an announced \$3,000,000. The Graham company manufactures gas ranges.

FLORENCE STOVE CO., Gardner, Mass., announces it now has \$11,000,000 in defense contracts and expects by the end of the year to be producing defense goods at the rate of \$1,000,000 per month.

UNITED STATES RADIATOR CORP., Detroit producer of domestic heating and air conditioning equipment, has acquired manufacturing facilities of Highway Steel Products Co., Chicago Heights, Ill., to be used for production of steel and aluminum airplane landing mats.



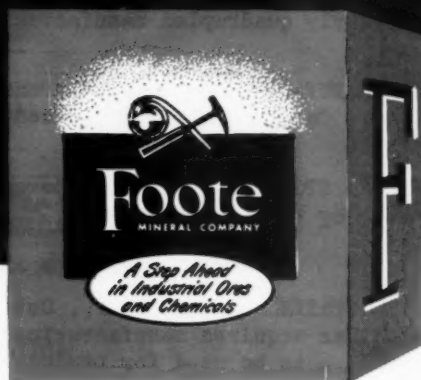
"FOOTE's mountain" of LITHIUM ORE

More Foote lithium chemicals are on the way . . .
Our high grade ores at Kings Mountain, North Carolina
already are feeding the Foote Exton processing plant which
is being expanded to increase capacity materially . . .
for more and better ceramic products, multi-purpose
greases, welding rod coatings and fluxes, electronic tubes
and a host of other industrial applications.

Foote lithium is a good buy—chemically and economically.

FOOTE MINERAL COMPANY

HOME OFFICE AND RESEARCH LABORATORIES
412 Eighteen W. Chelton Building, Philadelphia 44, Pa.
PLANTS: Exton, Pa.; Kings Mountain, N. C.





Camera: Speed Graphic 4 x 5 — multiple flash with #22 bulbs
Film: Super Panchro Press Type B — 1/400 sec. at f/11

"Strike Ball" by Alan G. Potts
Clark Equipment Company
TEN DOLLARS will be paid for a good quality black on white 8x10 enlargement chosen for this page. Sports subjects or plant operations given preference.

154 DOTTAGE All ps bag tes a bag dropy truce on offer no field without keep a safe bag of the 284102 MET
 Poplar Forest 12th R—11000 sec of VII
 examples 4 & 2—roughly map map 25 page



When a TAM* field engineer calls...

You can obtain a wealth of practical, useful and authoritative information by discussing your technical problems with a TAM sales engineer. He is well equipped to work for and with you. More than ten years ago he received his degree in Ceramic Engineering from one of our leading universities. Since then, his education has been broadened by wide experience. In the field, he has had his coat off and his hand-in on more than a few plant projects. His advance informa-

tion on new developments and applications is a valuable asset.

Here is a man ready to work with you. You will find him intelligent and cooperative—quick to understand your problems. Furthermore, he is your direct contact with a fully equipped and staffed headquarters that is the source of much worthwhile information and data. When your TAM engineer calls, get the full value that his background offers you.



*TAM is a registered trademark.

Registered U. S. Pat. Off.

TITANIUM ALLOY MFG. DIVISION
NATIONAL LEAD COMPANY

Executive and Sales Office: 111 BROADWAY, NEW YORK CITY • General Offices, Works, and Research Laboratories: NIAGARA FALLS, N. Y.

HD-N

Cuts Cleaning Time

Cowles HD-N Cleaner, the *new* heavy-duty soak cleaner for ferrous metals, will often do in 10 minutes what it takes other cleaners 30 minutes or more to do. It is specifically formulated as a straight or barrel soak for precleaning before plating, enameling, pickling, painting, back-shop reconditioning—or anywhere a heavy-duty cleaner is needed to remove stubborn types of soil.

The latest developments in metal cleaning research have been incorporated in HD-N to assure maximum detergency under all conditions of usage.

HD-N may also be used on such active metals as brass and zinc, if some attack is acceptable.

HD-N penetrates and removes such soils as oil, carbon, grease, drawing compound, graphite, road and shop dirt in *one* cleaning operation. It is fast, thorough, and does a complete job . . . is readily and completely soluble in hot water.

COWLES CHEMICAL COMPANY

Metal Cleaner Department
7016 Euclid Avenue • Cleveland 3, Ohio

This booklet
will be sent
by filling in
coupon.

HEAVY DUTY
CLEANING
"FAST WAY"

Cowles Chemical Company
7016 Euclid Avenue
Cleveland 3, Ohio

Please send me booklet, "HEAVY DUTY
CLEANING THE FAST WAY."

Name _____

Company _____

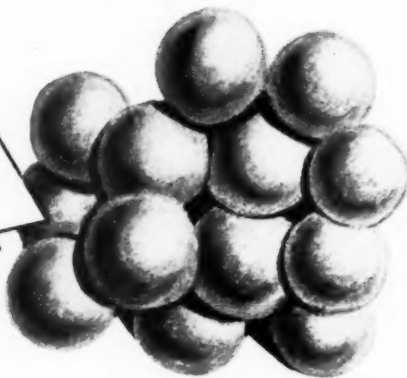
Address _____

City _____ Zone _____ State _____

Take
LONGER
to
Make...



McDANIEL



**HAND-ROLLED
GRINDING BALLS**

Give Longer Service

OTHER McDANIEL PRODUCTS

Mill Lining Brick

Mill Head Assemblies

**Metal Covered Grinding
Jars and Mills**

Tank and Dryer Linings

McDaniel Grinding Balls are different and better because of the slow painstaking way in which they are made. Every ball is treated as if it were the only ball . . . is "given the works" from start to finish.

The high quality porcelain body is carefully rolled by hand to provide a strong internal structure, a guard against lamination; then high fired for complete vitrification; then slowly cooled to prevent cracking or chipping; then tested in uncushioned mill, and finally individually inspected.

Specify high quality, hand rolled McDaniel Porcelain Grinding Balls on your next ball order, and grind better and longer to improve product while cutting grinding cost.

West Coast Representative
Fernholtz Machinery Company
150 N. Norton Avenue, Los Angeles, California

Write for Catalog

Write today for helpful informative catalog "McDaniel Industrial Porcelains". It contains technical data and record of performance tests which will be of interest and value to you.



McDANIEL REFRACTORY PORCELAIN CO.
BEAVER FALLS, PENNA.

Chicago Vitreous Enamel Product Company

Exclusive Representative for the Enameling Industry

When you buy
TROLLEY CONVEYORS

why not get BOTH?



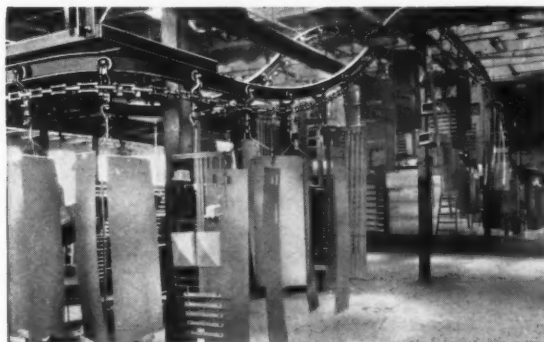
Superior components PLUS



Engineering ingenuity



Enameled pieces are transported on a Link-Belt Overhead Trolley Conveyor through a 58-foot furnace which operates at temperatures up to 1600° F.



After leaving the bake oven, these parts for filling-station pumps are circulated on a Link-Belt Overhead Trolley Conveyor until thoroughly cooled.

YOU can make your overhead trolley conveyor dollars go farther by calling in Link-Belt while you're still in the planning stage. Link-Belt makes the finest trolley on the market today. Equally important, our specialists can draw on the world's largest, most varied background of conveying and power transmission application.

Bringing parts to workers and taking them away. Drawing raw materials from stock at correct intervals. Synchronizing operations to eliminate bottlenecks.

Link-Belt Overhead Trolley Conveyors do all these jobs to release valuable manpower for productive work . . . to increase output. And they free floor space, too.

Why not have a Link-Belt engineer help you and your consultants plan peak production results? Write for Book 2330 for all the facts.

LINK-BELT
OVERHEAD TROLLEY CONVEYORS

LINK-BELT COMPANY: Chicago 8, Indianapolis 6, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8, Springs (South Africa). Offices in principal cities.

finish SEPTEMBER • 1951



Continued high steel production this winter may depend on . . . **CLEANING OUT** → **YOUR SCRAP** **THIS MONTH**

HOW TO TURN SCRAP INTO MONEY
with an organized dormant scrap round-up
in your plant:

1. Appoint a top executive with authority to make decisions to head the salvage drive.
2. Organize a Salvage Committee and include a member from every department.
3. Survey and resurvey your plant for untapped sources of dormant scrap. Encourage your employees to look for miscellaneous scrap and report it to the committee.
4. Sell your entire organization on the need to scrap unusable material and equipment.
5. Prepare a complete inventory of idle material and equipment. Tag everything not in use.
6. Start it back to the steel mills by selling it to your regular scrap dealer.
7. **KEEP AT IT!**

***DORMANT SCRAP** is any obsolete, broken or worn-out and irreparable machinery, tools, equipment, dies, jigs or fixtures, etc., that may encumber your premises.

Despite . . . and because of . . . the continued high rate of steel production, the steel industry is on a hand-to-mouth basis in its receipts of purchased scrap . . . essential to production! Mills that normally inventory a 60 day supply of scrap, are now maintaining high production with less than a week's supply on hand. That the effect of winter on transport facilities could quickly exhaust these dangerously meager scrap inventories . . . and thus force a cut in steel production . . . is obvious. Help assure an uninterrupted steel supply by rounding up and selling your dormant scrap* to your regular scrap dealer this month!



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Cutaway view of a typical automatic spraying unit for refrigerator parts, including six stations: clean, rinse, phosphate, rinse, acid rinse, and dry.

Phosphatize for finish quality

by Gilbert C. Close • FINISH CORRESPONDENT

WHILE phosphatizing is employed in many types of industry, very few companies are using it to the full advantage. More often the process is relegated to a few specific uses with no thought given to extending its value. Many companies have never employed a phosphating solution, but are struggling to maintain more critical processes for which phosphating could be substituted to obtain equal results.

The phosphating processes are not new. The first patent on such a solution was issued in England in 1906. Since that time, more than 150 British and American patents have been issued dealing with some phase of the process. Today phosphating is widely employed in the United States, in Britain, and in Germany, to accomplish end results ranging all the way from simple metal cleaning to application of a final protective coating, and to apply a low-friction coating on metals to be formed by draw-

ing, hydropress, or other metalworking facilities.

How phosphating solutions work

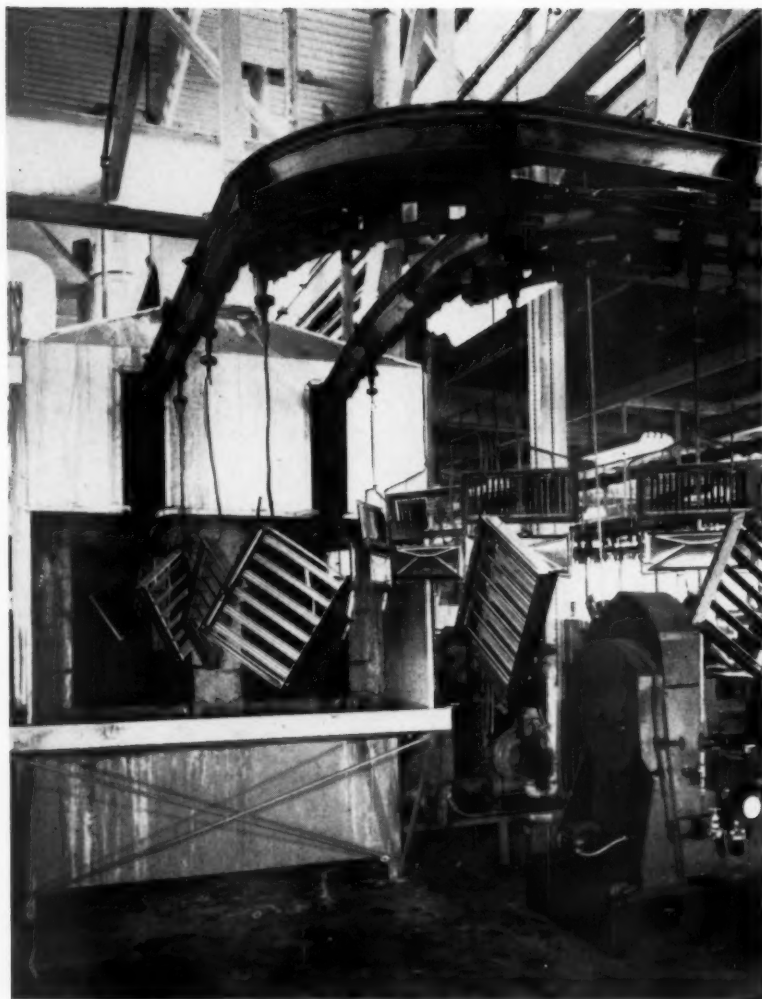
Basically, phosphating is a chemical process whereby iron, steel, zinc or cadmium surfaces are treated with an aqueous solution containing either zinc, manganese or iron phosphates (or a mixture of these) along with a small quantity of free phosphoric acid. Sometimes an accelerator is used to speed the reaction. When one of these metals is immersed in the solution, a reaction takes place which results in the conversion of the metal surface into a layer of insoluble crystalline phosphates. These phosphate crystals are formed integral with the basis metal, and provide an excellent bonding surface for subsequent coats of paint, enamel, lacquer, etc., or for the adsorption of stains or oils.

Due to their crystalline and somewhat porous nature, the phosphate coatings are not usually employed for

final finishing, but as a base for subsequent coatings. In this combination, they add substantially to the corrosion resistance of the surface on which they are applied. As a base coat, they exhibit great passivating powers, and if both the paint surface and phosphate coating is damaged so that the underlying metal is exposed, corrosion will be limited to the exposed metal and will not spread under the paint. This is a great advantage in ordinary metal finishing work.

Two principal treatment categories

The phosphating processes currently in use can be divided into two main categories according to the time required for formation of a suitable coating on an iron or steel surface. In the phosphatizing of nuts, bolts, washers, etc., a heavy coating is required as only an oil or stain is used in conjunction with the coating to provide the final corrosion resistant finish. The coating must be heavy



A five-stage automatic spray machine at Lima Register Company, Lima, Ohio. First two stages are for cleaning, third for rinsing, fourth for phosphatizing, and fifth for drying.

enough so that the quantity of oil or stain adsorbed into the pores will provide sufficient protection. From 30 to 60 minutes are usually required for this type of deposit. The short-time treatments, varying from 7 seconds to 10 minutes, are more commonly used, and are intended to provide an adequate bonding surface for subsequent coatings of some type. These short-time treatments are made possible by incorporating an accelerator in the solution to speed up the reaction.

The heavier coatings weigh in the neighborhood of 3 to 4 grams per square foot, and increase dimensions about 0.0002-inch per surface. Such coatings, complemented by adsorbed oil, were used extensively during

World War II for protection of metal war stores against corrosion. They proved to be especially effective on guns and small arms, and were more economical and speedier to apply than the older service Browning treatment.

The widest use of phosphate coatings in the metal finishing field are, however, for pre-treatment of ferrous surfaces preparatory to application of an organic finish. Their peculiar ability to offer a good bond for finish coats and to prevent the spread of corrosion when the finish coat is damaged makes them very valuable for use in the home appliance field. Few such appliances will complete their service life without scratches and other damage to the finish coat-

ing. The ability of the underlying phosphate crystals to localize this damage and prevent the spread of corrosion is a worthwhile attribute to quality finishing.

Basic steps in the process

When using the phosphating process, the four basic operations to prepare a metal surface for subsequent painting are as follows: (a) cleaning, (b) phosphating, (c) rinsing, and (d) drying. Each of these operations play a significant part in producing a high quality phosphate coating, and each must be considered separately when optimum results are desired.

To procure a homogeneous deposit of phosphate crystals, the solution must have complete access to the entire metal surface. This demands rigorous and efficient surface cleaning prior to phosphatizing. Any part of the surface sealed off by dirt, grease, rust, scale, or another impurity, will not be brought into contact with the solution and consequently will not be treated.

When articles are fabricated from bright, rust-free sheet and metal strip, the only soil present will be grease and oil. These contaminants are easily removed by standard cleaning methods, such as an alkaline bath or vapor degreasing. When an alkaline cleaner is employed, very efficient rinsing methods must follow, as the retention of any alkali on the surface will result in an inferior phosphate deposit.

When the surface of the metal to be phosphated is covered with rust or mill scale, either a chemical or mechanical cleaning method can be employed. For heavy deposits, shot or sand-blasting will prove most effective; for lighter deposits an acid pickle may be used. But the acid, like the alkali, must be thoroughly

Note: Illustrations for this article are through the courtesy of Parker Rust Proof Co., Detroit; American Chemical Paint Co., Ambler, Pa.; and Klem Chemicals, Inc., Detroit.

rinsed away before the work is immersed in the phosphating solution. In a few instances, where only very superficial rust deposits are involved, they will be removed by the phosphating solution without recourse to pre-cleaning operations.

Crystal size and adherence to the base metal determines the corrosion resistance of a phosphate coating. As both of these factors are dependent upon proper cleaning, this phase of the process cannot be overlooked.

As most phosphating solutions are prepared using proprietary chemical formulae, and because many process features are covered by patent, only a summarized description is possible in an article of this type. As already stated, phosphating in principle consists of treating a cleaned metal surface in a processing solution which is maintained within fixed limits of concentration and temperature. Solution control is simple, and standard results can be obtained when proper attention is paid to contributing operations.

For immersion or spray application

Two methods of solution application are employed—immersion and spraying. When spray application is employed, one of the fast-acting solutions with an accelerator must be used. In immersion treatment, times may vary upward to 10 minutes. Mild steel or rubber-lined steel tanks, heated by gas, steam or electricity, are generally employed to contain the solution. Temperatures of the various baths range from 125° to 185° F. While solutions that will work at room temperature have been announced, the author is not sufficiently acquainted with them to make a statement at this time.

Phosphating solutions are made up by adding a specified quantity of concentrated chemicals to water. Solution control can be maintained by simple titration methods. This does not require extensive laboratory facilities, and can be accomplished by unskilled personnel. When solution strength drops below normal, it can be reactivated by simple addition of the concentrated chemicals. More de-

tailed control information will be provided with the proprietary products purchased to make up the bath. It is doubtful if any economies can be realized by attempting to mix and blend commercially available chemicals in bath preparation. Phosphating solutions are habitual sludge formers, and the proprietary chemicals have been carefully blended to minimize adverse results caused by this characteristic. The proprietary formulae are also provided with the proper accelerators for specific types of work.

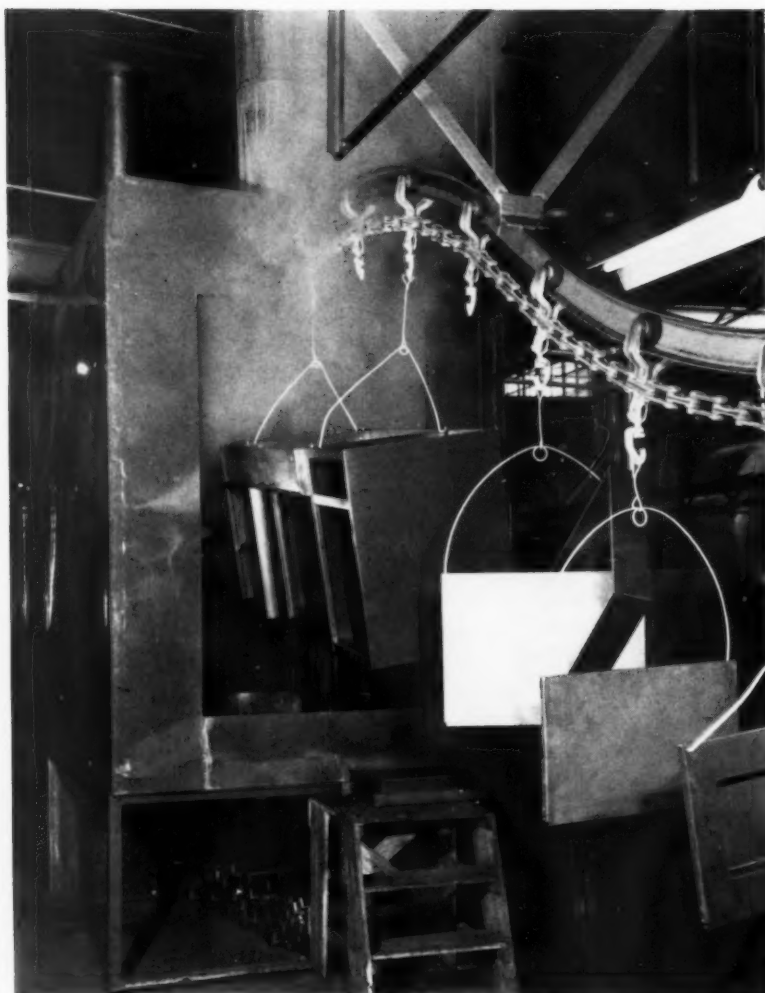
Proper rinsing is necessary

Proper rinsing after phosphating is necessary for good results, and rinsing techniques can be varied to obtain superior results under certain

conditions. While most of the sludge formed during phosphating will sink to the bottom of the solution tank, some of it is bound to adhere to the work when it is removed. This sludge, while an insoluble precipitate in itself, will carry some solution with it, and unless removed, will cause the solution to dry on the surface of the phosphated work. This dried solution may adversely affect subsequent coating materials. A thorough rinse in clean running water will remove both the sludge and the entrapped solution. Furthermore, due to the color of the phosphate coating, a good rinse will reveal any surfaces that have not received complete processing. The best rinse is accomplished in water ranging from 160° to 180° F. in temperature. →

Ironer parts are processed in this unit at Ironrite, Inc., Mt. Clemens, Michigan. After metal is cleaned and coated, it is given a hot water rinse, and then a chromic phosphoric rinse.





Sheet steel kitchen cabinets and sub-assemblies entering unit at Tracy Manufacturing Co., Pittsburgh, Pa. Process sequence includes alkali cleaning, rinsing, phosphate coating, rinsing, and acidulated rinsing.

The chromic acid rinse

When maximum corrosion resistance is required, a chromic acid-water rinse can be used after the straight water rinse. This is accomplished by immersing the work for about 30 seconds in a dilute chromic acid solution (about 4 oz./100 gal. of water) at from 160°-180° F. In addition to functioning as a second rinse, this treatment increases corrosion resistance by passivating all minute metal surfaces that were not affected in the phosphating bath. This second dilute chromic acid rinse is now widely used in both America and Britain, with noticeable increase of corrosion resistance.

The final operation is proper and complete drying of the phosphated

work prior to final finishing. Speedy drying is necessary both to remove all moisture before final painting, and to reduce the time element involved. The work should be painted as soon as possible after phosphating to minimize the possibility of intrinsic contamination. Organic coatings may be applied to the phosphated surface by any conventional method—brush, spray, or dip—but dipping is preferred by some users for the prime coat, under the theory that the finish has the best opportunity to penetrate the porous phosphated surface, thus attaining maximum adhesion and bond.

Non-critical materials used

Phosphating has proved to be one

of the best available processes in the sheet metal industry for pre-treatment prior to painting. The chemicals used in solution make-up are mostly on the non-critical list and will continue to be available unless conditions grow worse. The process has been used in many instances to replace electroplated base coats, and probably would suffice in many other cases were it given a proper trial under proper processing conditions.

Phosphating process need not require extensive outlay

The adoption of the phosphating process does not require an extensive outlay. Modifications of existing cleaning and drying equipment will suffice in most plants. Conventional solution tanks may be used. Solution temperature control can be accomplished by using gas, electricity or steam—whichever is convenient. A minimum of testing equipment is needed to maintain controlled solution strength.

Phosphating is one of many tried and proven processes available for use in place of processes requiring more critical materials. Furthermore, companies already employing the process, may, by a little investigation, be able to extend its advantages in other facets of production.

This article is not intended to recommend any one of the proprietary phosphating processes now available. Each of these preparations has advantages and disadvantages for specific types of work. The only solution is to survey those available, then select the one most suited to the type of work involved. Some phosphating techniques are adaptable to fully automatic finishing set-ups using continuous conveyors from the cleaning tank through final finishing; others are more adaptable to various hand or individual operations.

Worthwhile results may accrue

Regardless of the specific formulae modification employed, worthwhile results will accrue when it is properly used. These results include superior corrosion resistance, superior bonding, better service life protection, and an overall increase in finishing quality.

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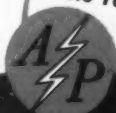
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Blitz cans	Drawing, cleaning, and phosphatizing
Screw machine products	Machining
Jet engine parts	Forging and drawing
Bazooka shells	Machining
Fuses	Machining, cleaning, and plating
Tank parts--transmissions, axles, differentials	Machining, piercing, punching, shearing

525 W. 76th Street, Chicago 20, Ill.

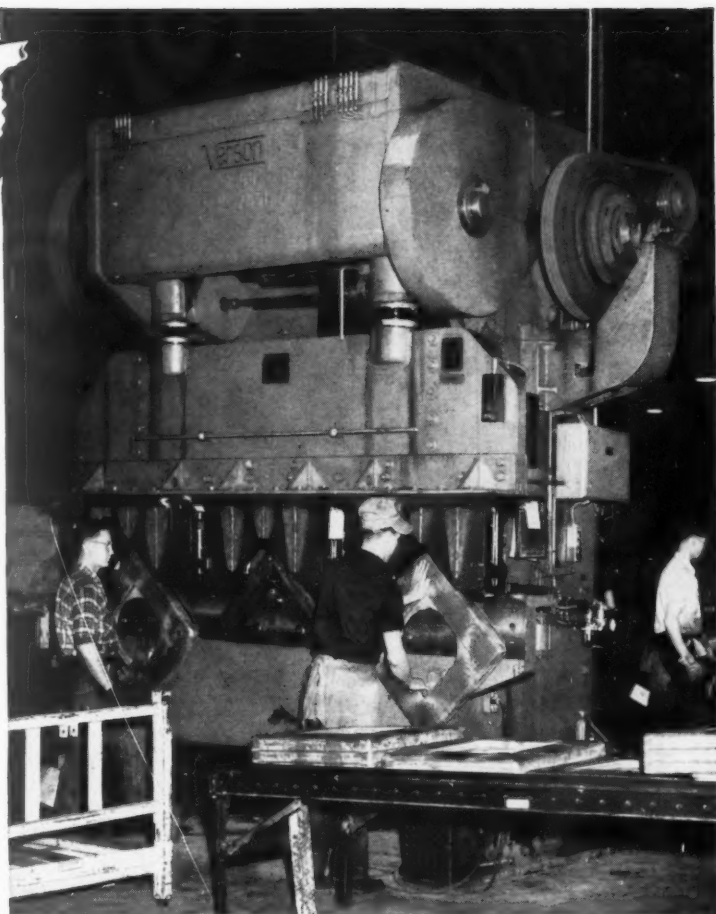
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The story of Maytag

background information on the fabulous self-contained Maytag operation—a story of manufacturing evolution from farm equipment to automatic washers

first in a series of articles



When F. L. Maytag and his associates organized The Parsons Band Cutter and Self-Feeder Company in 1893 to manufacture attachments for threshing machines, little did he realize that some day the company would eventually be known as The Maytag Company, with three manufacturing plants and considered one of the world's leading producers of washing machines, reaching a sales record of more than 7 million washing machines 58 years hence.

The Maytag Company, as it is known today, weathered many storms in its more than a half-century of progress. The chief initial manufacturing operations were carried on in an abandoned stove works factory building, 30 by 40 feet in size. It was in this small structure that band cutter and feeder attachments were made and distributed to 28 different concerns.

The early company organization went on to produce the Maytag-Success-Corn Husker and Shredder. The company later acquired the Ruth-Self-Feeder from a firm in Kansas and manufactured it under the name of the Maytag Ruth-Self-Feeder.

The "dolly" washer

There was an increasing demand by the American housewife for a domestic washing machine, and Maytag engineers immediately went to work on an idea and designed and produced the first Maytag washer in 1907. The early washer consisted of a wooden tub with a "dolly" inside, operated by a handle on the lid. Im-

proving that machine with a pulley mechanism, allowing it to be operated by a belt from an engine, was the next advancement.

As the company continued to improve and develop various types of

Editor's Note:

For some time, *finish* editors have been working with executives and key plant men of The Maytag Company, Newton, Iowa, in connection with the development of a series of articles describing the major operations in the company's Plant 2, where the Maytag automatic washers are built.

Inasmuch as Plant 2 is but one segment, although a very important one, of the complete Maytag operation it seems in order to paint a brief background picture of the company's organization and complete facilities. The facilities, which will be outlined briefly, place the company in a position as one of the most self-sufficient appliance manufacturing organizations whose operations it has been our privilege to describe in *finish*.

farm equipment, the company also continued to grow. In 1909 the name of the firm was changed officially to The Maytag Company.

Many improvements were made in the first washer to include a swinging wringer, electric motor, gasoline engines and various designs for the tub. In 1915, the successful casting of an aluminum tub was accomplished, but actual production of the tub in a new model washer was not begun until 1919. It was not long afterwards when Maytag discontinued the manufacture of farm machinery and devoted all of its efforts to home laundry equipment.

Founder F. L. Maytag launched a

national sales promotion in 1922 with the appearance of the square aluminum tub and swinging wringer, and from that time on the company has skyrocketed to success in the industry.

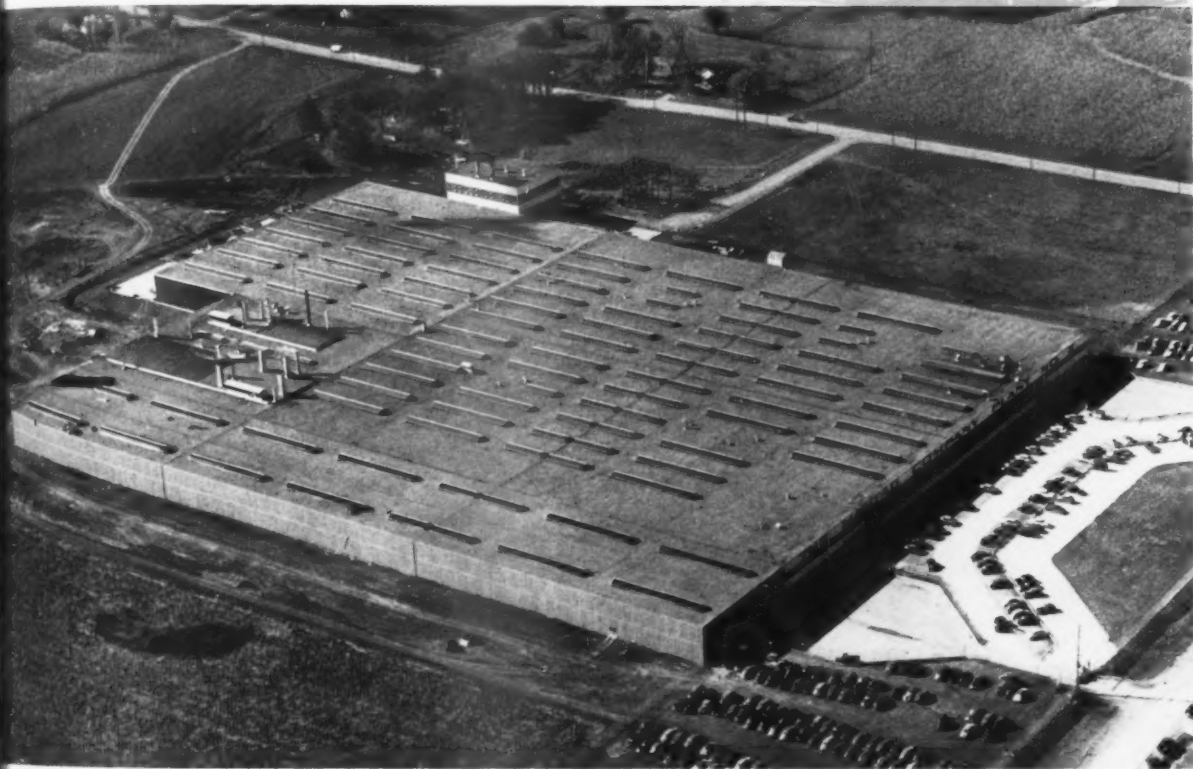
Defense activity

During World War II, Maytag discontinued its manufacture of all models of washers and devoted its full facilities to the production of war products for defense. From 1941 to 1945, Maytag produced hydraulic and electric actuating cylinders, sequence valves, speed reducer and bomb bay mechanism for airplanes; tank track pins, adapters, base plugs and nose fuses for aerial bombs; aluminum castings for airplane motors and machine gun turrets. An especially valuable contribution was the re-designing and simplification by Maytag engineers of hydraulic cylinders submitted to the company for manufacture.

Now in the present emergency, Maytag is again entering actively into defense contracts. Already a sizeable contract for a 75 mm shell base plug is being processed at the company's downtown plant in Newton. A large defense contract building is now under construction at the same plant facility for the manufacture and assembly of tank track shoe components. Other smaller sub-contracts are under consideration by company officials.

Maytag Plant 1 now has 797,000 square feet of floor space on 18.3 acres of land. This facility is in multiple-story buildings with the exception of the aluminum foundry. Plant 1 has a completely conveyORIZED operation and the factory is equipped with the latest in machining, foundry,

Shown at the right is the plant in which initial manufacturing operations were begun in 1893 by F. L. Maytag and his associates. Below is The Maytag Company's Plant 2, located in northeast Newton, Iowa.



heat treating, and plating equipment.

In March, 1948, Maytag executive management began looking for manufacturing space for the proposed new plant in which to build and assemble the Maytag automatic washer. As soon as word reached the wires, cities all over the U. S. began making bids for the Maytag plant. After an aggressive campaign by all Newton civic groups and several thousand endorsements by the citizens of Newton pledging full support to a new Maytag factory, the second in Newton, President Fred Maytag II and his executive staff decided to build the plant in Newton.

The modern automatic washer plant in northeast Newton is an example of the best and most modern industrial construction. Located on a 54-acre tract in this midwestern city of some 15,000 people, the plant encompasses a total area of 450,000 square feet and employs around 1100 persons.

The 7 millionth Maytag

On June 14 of this year, the 7 millionth Maytag washer, an automatic model, was produced in Plant 2. Iowa's Governor William S. Beardsley as well as many national, state and local officials were on hand to

witness this production achievement.

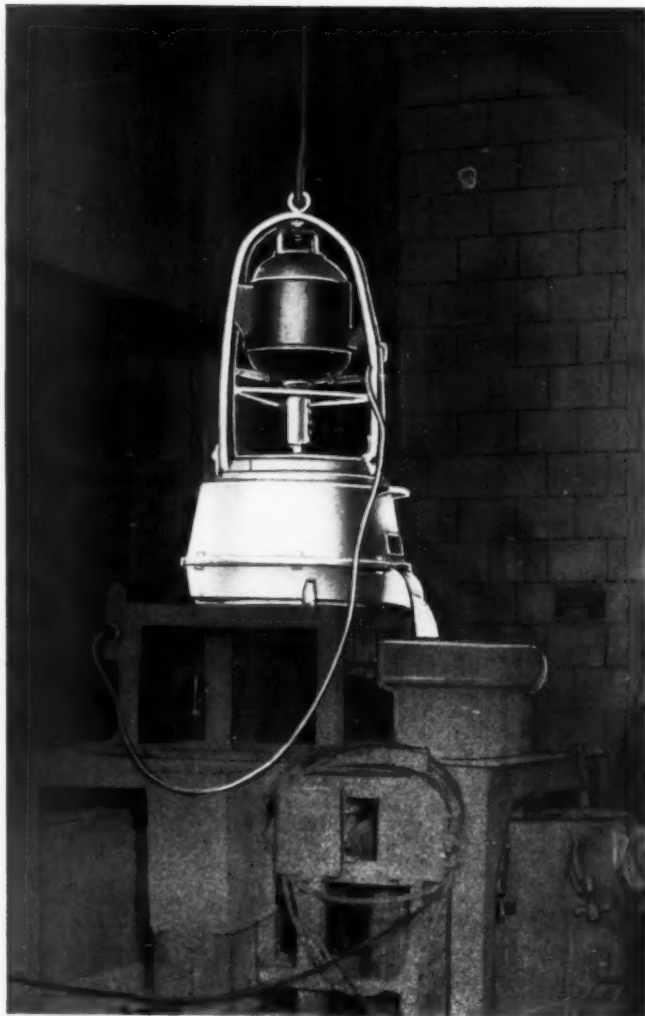
The company produced its 1 millionth washer in February, 1927. Five years later in 1932 it produced the 2 millionth washer; in July, 1936, Maytag produced the 3 millionth, and in May, 1941, the 4 millionth washer. The 5th millionth came off the lines in October, 1947. Then in October, 1949, the 6 millionth was produced.

While Plant 1 (where three wringer-type model washers are produced) contains many departments producing component parts for the washers, Plant 2 is even more self-contained in that die-casting parts for the auto-

to Page 69 →

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← Photo shows Rotospray in operation in The Maytag Company's Plant 2, in Newton, Iowa.

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Producing ceramic coated Navy motor ship mufflers

applying a one-coat heat and corrosion resistant coating
to parts with thickness variables from $\frac{1}{8}$ " to 1"

by Gilbert C. Close • FINISH CORRESPONDENT



Organizational work and production are proceeding side-by-side in the shops of Seaportel Pacific, Inc., a new West Coast enameling plant located at Long Beach, California. Though as yet not completely tooled nor equipped with full personnel, work is already in progress on a U. S. Navy contract for enameled sheet steel motor ship mufflers. Production problems are being ironed out and streamlined, and a serious enameling problem, that of successfully applying a

single burned coat in one operation to the multiple metal thicknesses found in each muffler assembly, is well on its way to solution.

Arc-welded construction

The mufflers are of all arc-welded construction, with body components fabricated from formed hot-rolled plate ranging upward to $\frac{1}{4}$ -inch in thickness. Some of the machined and drilled attachment flanges used are 1-inch in thickness. A few of the baffle sections are of hot-rolled plate less than $\frac{1}{8}$ -inch thickness.

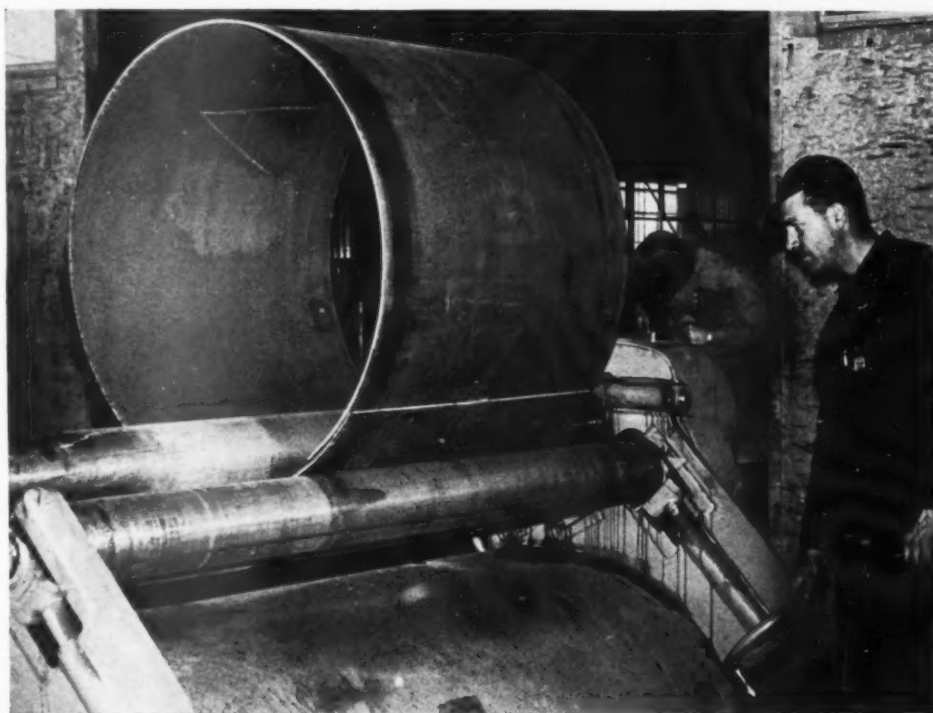
The various muffler components are flame-cut to size from the hot-

rolled plate. An automatic flame cutter is used for the larger standardized sections, while baffle sections and smaller blanks are flame-cut by hand. An 8-foot metal roll is employed for forming the heavier body sections. This machine can handle rolled diameters up to approximately 100 inches. Arc welding as yet is all by hand, with the muffler sections jugged and held in position by clamps.

Cleaning and pickling

After welding, the mufflers are cleaned and pickled and made ready for enameling. The cleaning set-up,

Rolling a Navy muffler body on an 8-foot metal roll. Hot rolled plate is $\frac{1}{4}$ -inch thick.





Left: Cutting hot rolled plate with a special flame cutting machine.

Right: William Blackburn, enamel shop superintendent, points out a 1-inch thick attachment flange which must be enameled simultaneously with other muffler sections varying downward to 1/8-inch gauge material.



consisting of seven 4-foot by 8-foot tanks containing conventional solutions, is located outside under a canopy surrounding two sides of the building, thus eliminating the need for an extensive exhaust and air circulating system. Work is handled through the cleaning and pickling solutions by means of an overhead traveling hoist.

Enameling equipment consists at

present of a 350 KW box furnace, one open spray booth, two exhaust booths, and a 25-foot drying chamber. The mill room provides convenient storage space for frits, and includes a small experimental ball mill and laboratory facilities.

The big problem!

The big problem involved in the muffler contract was application of a

single enamel coating over the various gauges of metal used, and over the arc weld beads, that would meet the high Navy specification requirements. This was accomplished by means of a special enamel, and by using a burning time of from 25 to 45 minutes, dependent upon the maximum metal gauge. The coating thus acquired is mottled deep blue in color, very hard, and highly resistant to impact.

Other jobbing work

In conjunction with Navy motor ship muffler production, Seapacel Pacific is already deeply involved in architectural enameling. This work is on a contract basis, with the design, fabrication, enameling and installation of the architectural units all accomplished by company personnel. To this end, a completed sheet metal fabrication shop is being tooled and made ready as rapidly as equipment becomes available.



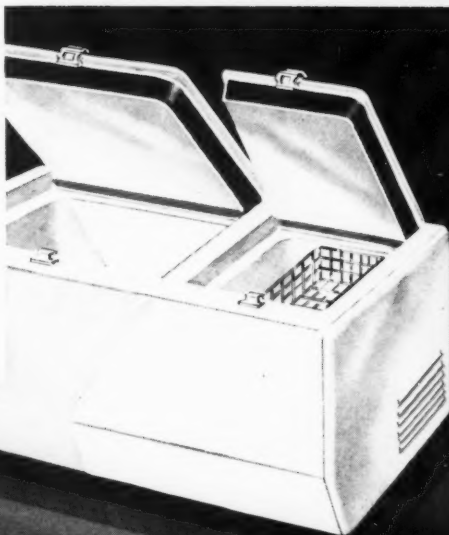
Left: Muffler bodies ready for cleaning and pickling.



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Phosphate base glasses as enamels for aluminum and its alloys

Part II

by J. W. Donahey, G. J. Morris AND B. J. Swco

THE application of the ground coat requires that the metal be cleaned free of all organic material, since the firing temperatures used are not sufficiently high to burn out organics completely. Adherence is improved considerably by an etching treatment involving the use of either an alkaline or acid bath. An alkaline treatment is slightly more advantageous since it permits the use of various cleaners and wetting agent. Therefore if the metal is not too badly contaminated a single bath can serve both as a cleaning and an etching medium.

A study of cleaning methods was made to determine the effect of surface etching on bond. The results of these tests are summarized in Table VII. The three cleaning methods used were:

1. *Mild cleaner*, Dreft used at "rolling" boil, surface free of greases but no etching occurred.
2. *Alkaline bath at 220°F—3 min.*, Tetra sodium pyrophosphate, sod. sequei-carbonate, wetting agents, clean surface—"satin" finish showed etching.
3. *5% H₂SO₄, 220°F for 5 min.* Similar in appearance to No. 2.

The results indicate that a proper etch is more important than oxidation in obtaining good bond on aluminum.

This cleaning method can be used for flat stock and small parts. It is recommended that large castings be degreased by firing at 900°F. and then sandblasted. No pickling is necessary after sandblasting.

Clay and bentonite cannot be used as suspending agents for these frits.

Their use increases the maturing temperature materially and also produces a vesicular structure within the enamel which gives poor surface characteristics. However, a satisfactory suspension can be gained by the use of sodium silicate. A typical mill addition formula consists of:

- 100 Frit (by wt.)
- 2 Sod. Silicate (by vol.)
- ½ Sod. Tetraphosphate (by wt.)
- 35 water (by wt.)

Cover coat compositions

Ground coat E-2 does yield a satisfactory surface with single coat application at approximately 30 gm. per sq. ft. (dry wt.). It is desirable at times to apply a second coat to obtain better coverage or to apply various colors. The ground coat color is a transparent blue-green.

The base composition for all cover coats is glass D-2 which is free from CuO. This composition can be used

with the usual enamel color oxides for deep colors. An opacifier must be added to the mill additions to obtain pastel colors. An opaque white of 75% reflectance can be made by adding 10% titanium dioxide to the mill additions.

In cover coat mill additions 1/2 KCl should be used in place of the sodium tetraphosphate.

Physical and chemical properties of enamels

Additional properties of cover and ground coat compositions are given in Table VIII.

Within the normal ranges of compositions in which the mill addition colorants and opacifier do not greatly exceed 15%, the surface texture of the enamels is excellent—a typical property of phosphate glasses with their low surface tension.

While low melting, these enamels

to Page 75 →

TABLE VII		
Effect of Acid and Alkaline Cleaners on Adherence		
Metal cleaning	Adherence Reading (°)	
	1st fire	Refire
Mild cleaner	92	99
Mild cleaner, preoxidized	99	72
Alkaline cleaner 220°F, 3 min.	7	3
5% H ₂ SO ₄ , 220°F, 5 min.	7	10
* (Readings on a P.E.I. Adherence Meter.)		
(Sheets fired and refired at 1000°F. for 3 minutes.)		

TABLE VIII			
Properties of Aluminum Enamels			
	Linear Thermal Expansion	Acid Resistance at Maturity	Dilatometer Softening Point
Ground coat (E-2)	15.0 x 10 ⁻⁶	B	330°C
Cover coat (D-2 + 10% TiO ₂)	17.4 x 10 ⁻⁶	A	325°C

. . . serving you since '32
including the years of the Emergency, too

During the Last Emergency, we were vendors and consultants to many of the largest prime contractors producing material for the Army and Navy . . . Our products were concerned with aircraft frames, aircraft motors, guns and gun parts, bombs and bomb parts, small arms, ammunition, brass and steel shell cases, automotive and tank parts, radio and radar equipment, electrical equipment, Diesels, machine tools, screw machine products, wartime appliances and caskets.

Our products were used for cleaning and drawing of aluminum, magnesium, brass, copper, steel and zinc prior to plating, bonderizing, anodizing, zinc chromating, painting, spot welding, heat treating, blackening, vitreous enameling and stripping. The

Northwest and Alkalume trade mark was a familiar sight in hundreds of plants throughout the country.

Today, as the country is tooling for many of these same products, we are just as ready to serve — NORTHWEST has kept pace and has anticipated industry's every need in our field . . . Our production facilities have more than doubled in the last five years and so has our technical staff.

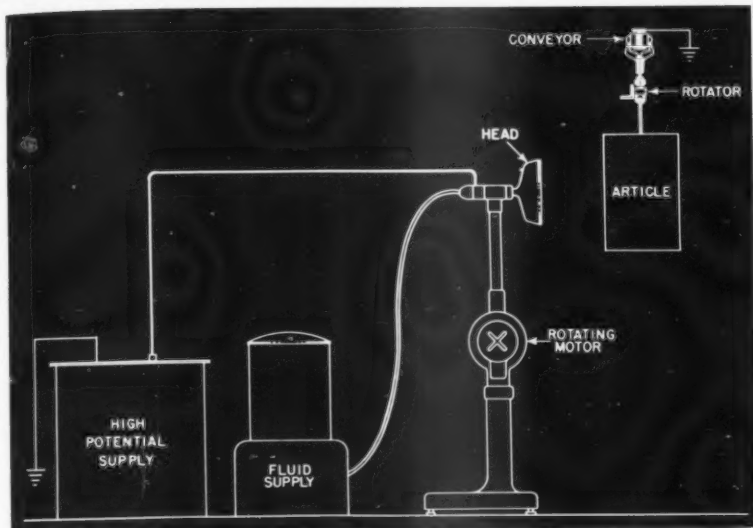
Our business has grown spectacularly during the present era because it has made sense to a lot of you to have the same company supply the correct lubricant for drawing metal and provide the product or process for its removal afterward . . . Let our technicians consult with you on your drawing and cleaning problems. You'll find it pays.



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pioneers in pH cleaning control — serving you since '32

New paint spraying method developed



AT A recent press conference in Indianapolis, Ransburg Electro-Coating Corp. unveiled for the first time a new spraying method which gives the casual observer the feeling that there is "nothing" to spray painting.

Members of the press got a first hand look at a production set-up involving the amazing new spray method in Ransburg's Appliance Division where cannisters were being produced in quantity.

From a straight-on-view of the coating operation, press representatives observed rotating cannisters being coated while passing in front of the spray "guns", but with no apparent spray leaving the guns. (A side view of the set-up revealed an almost invisible spray leaving the gun heads and "arcing" to the ware being coated).

Electrostatic atomization

Known simply as Ransburg No. 2 Process, to distinguish it from the company's other electrostatic spray system using air spray guns, the new method is based on an entirely new way of atomizing liquid coatings — electrostatic atomization.

In a production set-up, ware to be coated is carried by conveyor past a new type spray "gun" which consists of a hollow, dynamically balanced, cone-shaped head made of meehanite.

The coating material flowing to

the gun head, at a constant rate from a metering pump, spreads over its inner surface, and is flowed evenly to the outer edge by rotating the head at a high speed.

A strong electrostatic field is set up between the head and the ware

by a source of electrostatic high potential, one terminal of which is connected to the head and the other grounded by the conveyor.

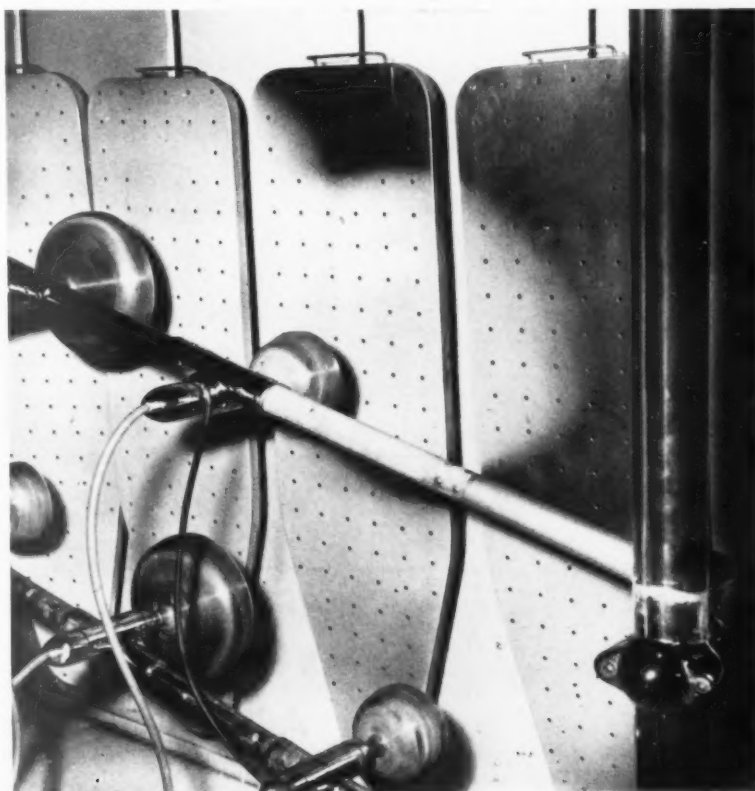
The paint is deposited on the ware by the force of the electrostatic field which changes the fluid into a spray of finely charged particles at the gun head, and sets up an attraction that pulls the particles to the grounded ware. Between 200,000 and 300,000 paint particles are said to leave the head every second.

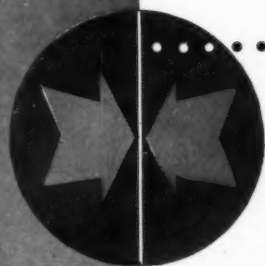
Company officials claim that on most production lines, the new process will coat from 25 to 75 per cent more pieces per gallon than other spray finishing systems, with paint utilization efficiency ranging from 95 to 99 per cent.

Overspray eliminated

Variables such as air pressures, spray pattern, fluid delivery, and overspray exhaust air currents are virtually eliminated. Ventilation of the area for control of solvent vapor is all that is needed. *to Page 67 →*

At Geuder, Paeschke & Frey Co., Milwaukee, where new process replaced the older Ransburg electro-spray process for painting metal ironing boards, a 25 per cent reduction in paint costs was achieved.





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only this far away from
MORE APPLIANCE SALES?



TOUGH AND MARPROOF

Kemclad formulations include special ingredients to protect finish against marring, chipping or scratching.



HOT GREASE? NO HARM DONE!

Even hot grease won't damage Kemclad's gleaming white finish!



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Kemclad Finishes aren't affected by food acids, weak alkalis, alcohols or other common household chemicals.



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Kemclad's smooth surface cleans easily with damp cloth, but withstands strong detergents safely.

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APPLIANCE FINISHES

ANOTHER PRODUCT OF SHERWIN-WILLIAMS INDUSTRIAL RESEARCH

Sales preference for *your* appliances may be only a matter of 2/1000 of an inch of thickness—the beauty and lasting quality of its finish! Buyers of appliances today have learned to demand and expect the punishment-resisting, white-for-life characteristics made possible by the newest developments in synthetic resin finishes.

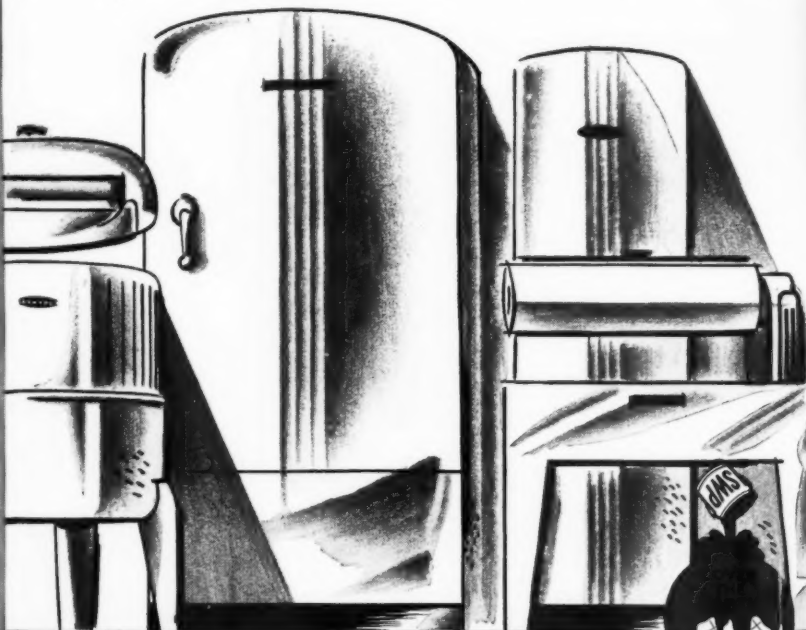
Kemclad* Appliance Finishes provide these qualities, accurately adapted to the specific needs, design-wise, production-wise and sales-wise, of appliance manufacture. In addition, they provide important production advantages as well:

Freedom from production difficulties. One user alone has applied over 86,000 gallons without technical or production problems.

Fewer rejects. Greater hardness *with flexibility* enables minor defects to be rubbed out—or “dinged” out—after baking.

Lower cost per unit. Exceptionally high solids content (65-68%) with low viscosity makes finishing cost low for any given thickness of finish.

Technical Service Engineers will be glad to advise what a Kemclad Appliance Finishing System can do for you. Investigate today—write The Sherwin-Williams Co., Industrial Division, Cleveland 1, O.
*®





The home laundry industry

including views of industry executives, typical industry products, and photos from the summer meeting of the American Home Laundry Manufacturers' Assn.

FOR the fifth consecutive year, *finish* has devoted this special section to the washer-ironer-dryer industry. Included in this section are articles by industry leaders and officials of the American Home Laundry Manufacturers Association, photos of typical home laundry equipment, and snapshots taken at the AHLMA summer meeting held in Chicago.

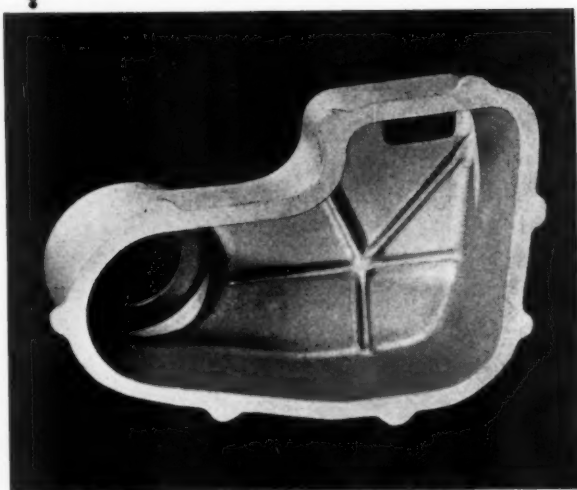
Attendance at the summer meeting was one of the largest in history. Some of the views of industry leaders presented before this meeting are included in more comprehensive article-form in this special section. A report on the steel situation by Benton J. Willner, of Inland Steel Company, was published immediately in the July issue because of its timeliness.

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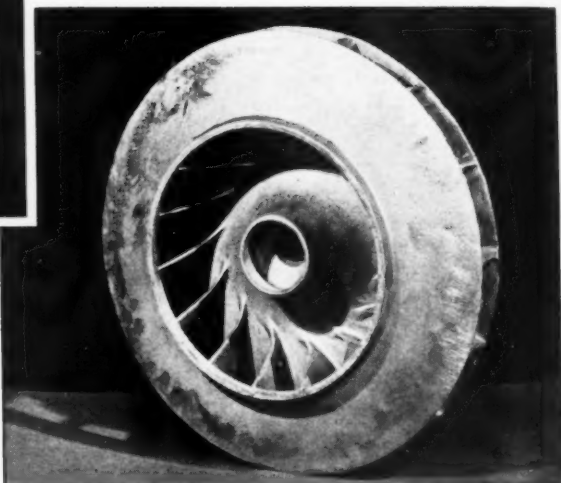
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William Shaw

The increasing importance of industry-wide cooperation

how a successful cooperative trade association is functioning
for the general advancement of the industry it represents

by *George P. Castner* • PRESIDENT, AMERICAN HOME LAUNDRY MANUFACTURERS ASSOCIATION,
GENERAL MANAGER, BEAM MANUFACTURING CO., WEBSTER CITY, IOWA

THESE are days when, as in World War II, it is increasingly important for industry to function as smoothly and as effectively as is possible. The responsibilities weigh heavily upon every manufacturer. Many industries have found that a trade association comprehensively organized and correctly administered is a good right hand for its members.

This is especially true when an industry—and what industry is not—is faced by the necessity of constant liaison with Washington. Even in peacetime, however, amid the great complexities of present day business any industry is amply justified in supporting a trade association which is truly typical of its purposes. Indeed, an organization of that kind is a "must".

In the American Home Laundry Manufacturers' Association we like to

think that the setup which was perfected several years ago comes very close to 100% in representing our

members as they need to be represented.

The members of our organization produce household washers, dryers and ironers running annually into millions of units. We must have a strong, active, trade association, well-integrated as it faces today's complexities in commerce and industry.

Facing the industry-wide problems

The individual manufacturer has many problems which he alone can solve. At the same time, there are many other problems which have to be faced in common with the other members of our Association. These latter are equally important to the continued progress and success of the individual members' own enterprises. It would be difficult or impossible for him to cope with any of these single-handed. Thus the Asso-

Editor's Note:

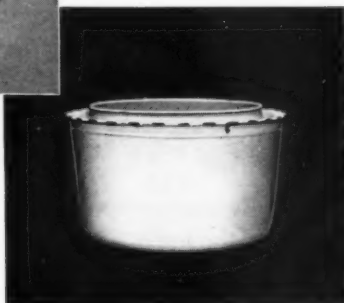
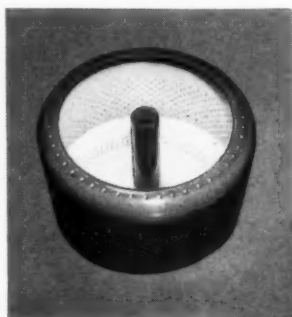
Cooperative association work has become increasingly important to a great many segments of industry. Practically all sections of the home appliance and metal products field, covered by *finish*, have their associations or institutes to attack the problems common to the majority of the members.

It is a privilege for *finish* to work with these associations, for our mutual benefit and for service to the individual manufacturing companies represented.

It is our plan to present a comprehensive picture of the "workings" of representative trade associations from this group. This is the first in a series of articles on the general subject of trade association activity.



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We've been working on them since the beginning!

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Ingersoll can tell you—because we've been producing washer tubs for automatics ever since the beginning of their popularity.

Ingersoll engineering skill bridges the gap between designers' ideas and mass production.

Ingersoll experience covers the whole field of tub design—from the "turtle neck" to the "wrap-around."

Ingersoll specialized equipment assures on-schedule mass production.

Ingersoll efficiency means low-cost, high-quality production.

Ingersoll is *your* best bet for automatic washer tubs—or any other kind.



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ciation, through its officers and various committees, seeks to handle and to solve, for the benefit of each member, those problems which confront the membership in general. Actually, we are a cooperative enterprise with each member serving as a partner in a program of specific activity and services planned for the general good of the industry.

The top policy group

How is this being accomplished? The Association's top policy group is its Executive Committee. Closely related to that committee are four committees of three members each. These represent the conventional washer, the automatic washer, the dryer and the ironer interests in the industry. Two persons from each product divi-



WALTER VOSS, CHAIRMAN, AHLMA
CONVENTIONAL WASHER DIVISION

JOSEPH GROSHANS, CHAIRMAN
AHLMA IRONER DIVISION

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GEORGE CASTNER, AHLMA PRESIDENT

sion committee make up our Executive Committee.

This committee set-up was planned to give each member of the Association the direct means for working with the others of his particular product group or groups. He has his product committee. Through that committee he has representation on the Executive Committee.

Engineering and research

The Engineering and Research Committee was organized in 1943 as the Materials and Standards Committee under the Association's Post-War Planning Committee, to report on new and alternate materials suitable for use in manufacturing the industry's products. Later its objectives were expressed as: "to establish a standard washing machine test for washability and wearability; also, to consider other matters of an engineering nature which may arise pertaining to our industry as a whole."

Today the American Home Laundry Manufacturers' Association's Engineering and Research Committee has sub-committees on wringer washers, cycle washers, dryers, ironers and underwriters' approval, and employs an engineering consultant. Its work has been described as possessing "incalculable value" for every member of the Association.

It perfected a test procedure which is a yardstick for measuring relative efficiency of all household washers. It is cooperating in the preparation of a uniform plumbing code for the

installation of automatic washers. It is at work on a complete specification outlining standard operating conditions, electrical specifications and installation specifications for the industry's products. It is collaborating with the Underwriters' Laboratories on standards for home laundry equipment. It is making a continued study of rinse test procedures and fabric wear test procedures.

Traffic problems and pre-shipment testing

The Traffic Committee is the Association's listening post on freight regulations and rates. It has been said that through this committee's activities each AHLMA member annually is saved the equivalent of his Association dues, and even more. A Pack-



R. G. HALVORSEN, CHAIRMAN
AHLMA DRYER DIVISION

R. J. SARGENT, CHAIRMAN, AHLMA
AUTOMATIC WASHER DIVISION





"Don't worry Grandma... he ain't about to hurt that *VEDOC* finish."

Folks soon find out your washers really stand up when they are protected with *Vedoc*. It's the hardest wearing, one-coat baked finish you can find. It matches perfectly to Porcelain enameled tubs . . . has high resistance to soaps and alkalis . . . is easily cleaned . . . and gives maximum protection against rust.

Vedoc finishes are formulated to work best with your particular production process. We make sure of this with every order for *Vedoc* finishes. Write us today for your requirements.

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aging Sub-Committee of the Traffic Committee continues to work for Association member participation in the Safe Transit Program. Fostered by the National Safe Transit Committee, this is a three-part cooperative effort by industry, the carriers and the makers of crates, containers, and packing materials (together with their laboratories) to reduce to a

Note: See "Home Laundry Industry Ties in with Safe Transit," by James Muirhead, chairman, AHLMA Packaging Sub-Committee, Page 91.

minimum the losses sustained in shipping.

Ever since the end of World War II there has been a steady rise in the amount of damage claims in shipment

of major appliances and allied finished metal products. This increase has been described as "a burden on the industry, an economic drag on its stability and progress." When our members adopt the Packaging Sub-Committee's recommended use of pre-shipment test procedures for their packaged products, large additional

to Page 74 →

Sanitation and product research aids industry progress

how an "epidemic" scare has been throttled and a by-product
of the atomic bomb used for research purposes

by **G. I. Cockerill** • CHAIRMAN, AHLMA NATIONAL SANITATION FOUNDATION COMMITTEE;
CHIEF ENGINEER, APEX ELECTRICAL MFG. CO., CLEVELAND, OHIO

AS this is being transcribed for *Finish* magazine, we are swinging into the fourth year of continuing study, at the University of Michigan, of the use of household-type automatic washers as operated in public installations.

This study is an enterprise of the American Home Laundry Manufacturers' Association. Under the Association's sponsorship, the study is being conducted by the National Sanitation Foundation, housed in the School of Public Health headquarters building on the University campus at Ann Arbor.

The epidemic scare

No epidemic or spread of disease through the communal use of these coin-meter washers ever has been reported in the course of their nationwide-use. Nevertheless, charges made by Congressman Donald L. O'Toole (D., New York) in July, 1947, made it evident that there was need for more factual information regarding these public installations than was available at the time. Congressman O'Toole described the washers, as used in coin-meter establishments, as "glorified septic tanks, the potential source of what could be the greatest and most deadly epidemic that this or any other country has seen."

Everyone connected with our industry felt that no part of Congressman O'Toole's charges was based on facts; nevertheless, no study was



G. I. COCKERILL

available that had been done by a recognized authoritative source which could be used to reassure anyone who might have been disturbed by the congressman's utterances.

As a result of the publicity given the congressman's report, the Automatic Washer committee of the Association, as then constituted and consisting of Judson S. Sayre, Bendix; John M. Wicht, Blackstone, and F. M. Mitchell, Frigidaire, recommended

that the Association, through its Engineering and Government Committees prepare specific information as to water temperatures required to make bacteria harmless; and to prepare correct information in connection with the sanitation requirements of self-service laundries, in view of the possibility of legislation being developed which would be against the operation of these establishments.

Research organization selected

All the commercial laboratories, testing establishments, universities and other organizations which were suggested as being the possible location for carrying on this work were studied and finally discarded, for one reason or another, with the exception of the National Sanitation Foundation. All evidence indicated that this was the institution most highly qualified to conduct the study. It is a non-profit organization and it is staffed with scientists whose professional integrity is beyond doubt.

Our Association's Executive Committee, at the request of the Engineering Committee, named a special group which endorsed the report in favor of entrusting the study to the Ann Arbor institution. The investigation continues under the super-

vision of our Association's special Foundation committee, consisting of G. I. Cockerill, chairman, of Apex; Wallace F. Oliver, Bendix; P. E. Geldhof, Whirlpool; W. C. O'Connell,

General Electric; and William Shaw, public relations director of the Association.

At the outset of the program, the National Sanitation Foundation was

instructed to treat the results of its work with strictest confidence, which has been done. However, the fact that it soon became quite common

to Page 78 →

An industry educational program gains headway

background and plans for conference that airs industry problems in open forum and develops the information for constructive consumer education

by *Howell G. Evans* • CHAIRMAN, AHLMA NATIONAL HOME LAUNDRY CONFERENCE COMMITTEE, VICE PRESIDENT, HAMILTON MANUFACTURING CO., TWO RIVERS, WIS.

THIS country's makers of household washers, dryers and ironers will be sponsors again, October 31-November 1, in New York City, of an event unique in its conception and which, we have every reason to believe, has been of great value to

participating home economists from many fields of endeavor. This is the National Home Laundry Conference. The coming event will be the fifth of its kind. We expect to have an attendance totalling 250 to 300 persons.

At the American Home Economics

Association convention in 1946 and again in 1947, various household appliance home economists from women's magazines and elsewhere got together very informally to discuss and attempt to settle certain questions of

to Page 79 →



MRS. JULIA KIENE, WESTINGHOUSE, CHAIRMAN, HOME ECONOMISTS COMMITTEE OF AHLMA



ELOISE DAVISON, INDEPENDENT CONSULTANT IN HOME ECONOMICS FIELD



DOROTHY DARRAGH, CALGON, CHAIRMAN, CONFERENCE SUB-COMMITTEE ON SOAPS, DETERGENTS, WATER SOFTENERS

MARGARET DOUGHTY, BENDIX, CHAIRMAN, AUTOMATIC WASHER SUB-COMMITTEE OF CONFERENCE

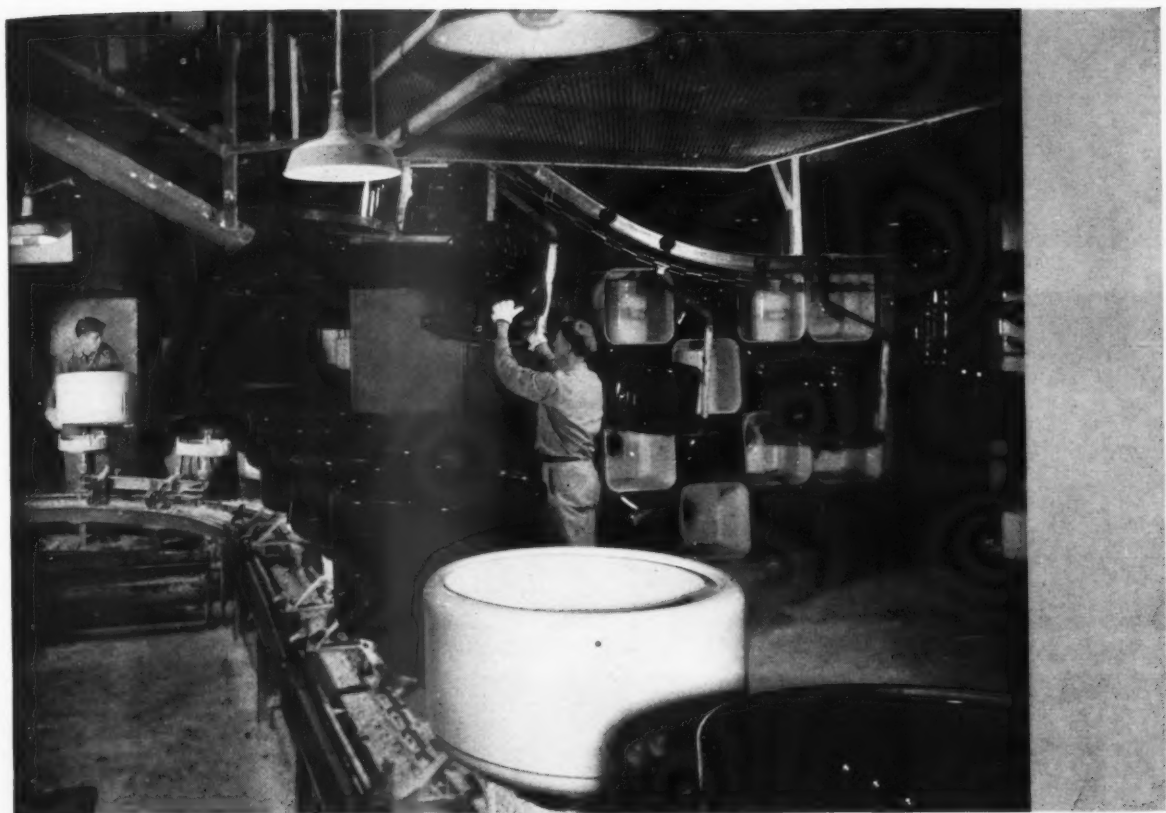


MRS. SELMA ANDREWS, HOTPOINT, CHAIRMAN, DRYER SUB-COMMITTEE OF HOME LAUNDRY CONFERENCE



MARY DOUGHERTY, THOR, CHAIRMAN, CONVENTIONAL WASHER SUB-COMMITTEE OF CONFERENCE





We've specialized in stampings for the washing machine industry

THE problem of supplying washing machine tubs has been turned over to us by leading manufacturers time and time again.

We're glad to have the reputation of leadership in the field. And we accept the responsibility. You will find Mullins ready always with the best technical knowledge and equipment. You will find an alert, pro-

gressive attitude—an honest belief that the problems of your business are our problems too.

In planning for the future or for the most economical source for current production, consult with us. Mullins has made many notable contributions to the industry's progress and hopes to make many more.



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Design Engineering Service, Large Pressed Metal Parts, Porcelain Enameled Products

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Howard Bourner, Temco; with M. J. Wilson, R. J. Runge, W. N. Chapman and Paul Welchans, all of Thor.



SNAPSHOTS FROM OF HOME LAUNDRY

Ellen J. Bodnar, Carol Baumeister, A. Conroy, Anna Credit, and S. Abram, of AHLMA office.



W. C. Bruckman, Automatic Washer; F. R. Hodgkinson, Dole Valve; R. Sampson, Leam; Geo. Heppe, Dole; Frank Breckenridge, Automatic; and Fred Goodrich, Dole.

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G. G. Hardy, G. W. Green, of B. Goodrich; R. H. Thompson, Maytag; D. B. Anderson, Nagel-Chase; C. Clauser and Tom Smith, Maytag.



R. M. Ellis, Dole; W. H. Reeve, East; Larry Wray, Electrical Merchandising; F. M. Mitchell, Frigidaire; C. Anderson, General Electric; R. Sargent, Westinghouse; Dave engineering consultant.

with M. J. Jones, Bendix; R. I. Cassady, Goodrich; K. C. Randolph, Bendix; T. A. Campbell, Detergents, Inc.



FROMMER MEETING LAUNDRY MANUFACTURERS

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R. S. Ingersoll, Ingersoll Products; I. R. Cooper, Whirlpool; R. M. Budape, Doherty; Stanley Marsh, Inland Steel; J. R. Ingersoll, Ingersoll Products.



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A. Lenna, John Wicht, P. S. Moynihan, Blackstone; O. L. Earl, C. L. Winger, Acme Aluminum Foundry; J. E. Peters, Blackstone.



Addressing the home laundry manufacturers on steel situation, at AHLMA summer meeting session, is Benton J. Willner, of Inland Steel Company.





The Old

COURTESY H. ARMSTRONG ROBERTS

TYPICAL PRODUCTS OF THE OLD

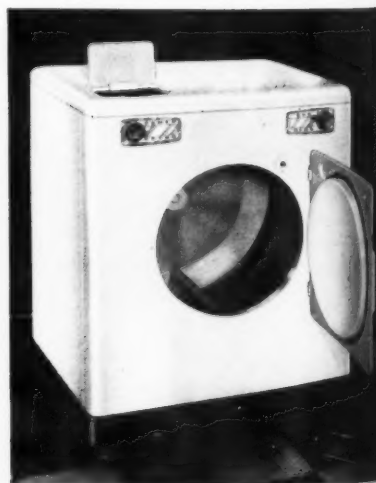
These photos represent only a few of the many fine products offered to homemakers. These are typical of the new washers, both conventional and automatic, dryers, and the ironers currently available.



COURTESY BLACKSTONE CO.

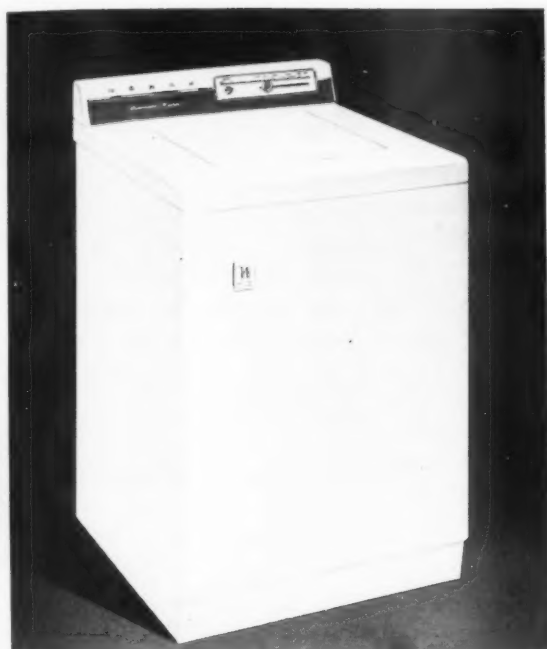


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COURTESY SERRA

HOME LAUNDRY INDUSTRY



COURTESY NORGE DIV. OF BORG-WARNER



COURTESY FRIGIDAIRE DIV. OF GENERAL MOTORS

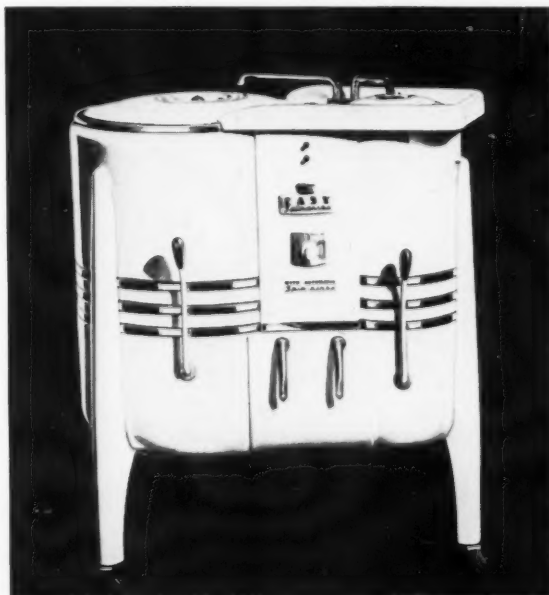
← Shown below is the controls panel of the new Norge automatic washer shown at the left. This new model was introduced at the recent Summer Home Furnishing Market in Chicago.



COURTESY EASY WASHING MACHINE CORP.



COURTESY IRONRITE, INC.



"A strange story" and "Someone like you"

the manufacturers of automatic ironers back a cooperative program

by Joseph Groshans • CHAIRMAN, AHLMA IRONER DIVISION; GENERAL SALES MANAGER,
IRONER DIVISION, SPEED QUEEN CORP., ALGONQUIN, ILLINOIS

EVEN though material shortages, government controls and all the other present deterrents to the continued expansion of the automatic ironer business are playing their respective parts in slowing up the flow of our product out to the consumer, the Ironer Division of the American Home Laundry Manufacturers' Association is pursuing a promotion policy designed to return cumulative benefits to all of us.

We are carrying on a program which we are confident will build still greater appreciation of household ironers than has existed heretofore, and among distributors and dealers as well as the individuals who actually use these time and labor-savers.

Those AHLMA members who constitute the Ironer Division of the or-

ganization have financed the production and distribution of two television films, entitled "A Strange Story" and "Someone Like You." Endorsement of the plan was unanimous among all our manufacturers who merchandise ironers. This of itself, it seems to me, is conclusive proof that an ironer promotion of this kind was not only greatly needed, but also was highly desirable.

Our special television committee, consisting of John R. Hurley, president of Thor Corporation; M. A. Toussaint, vice-president of Conlon-Moore Corporation, and myself, laid the groundwork for the type and style of films in several conferences with Wilding Picture Productions, Inc., of Chicago. When the scenarios were completed, our committee had the satisfaction of seeing the story

treatment approved by the whole ironer group of our Association.

Each film is a combination of straight photography and a cartoon sequence. Each reveals a household situation and then gives its solution, by means of jingles and an animated cartoon. Each film is about four minutes and twenty seconds long.

The films were not put into production until after a year of committee work, in which we had surveys made through the office of William Shaw, the Association's publicity director, and consulted with various experts in the TV filming field. These inquiries convinced us of the acceptability of the films as we planned them.

The two subjects will have their first use as sustaining material in homemakers' hours on various stations. Of course not all stations will use them on this basis, but we have assurance that quite a number will, provided, of course, that the subject matter is acceptable to them. Of this, we have no doubt.

After we have exhausted this avenue of approach, several ways will be open to us. The showing of the film could be financed on paid time by our ironer group, or by individual manufacturers or distributors with the addition of a trailer identifying them with the film, and even by single dealers, or a group of them, on any basis in conformity with individual company policies.

Each merchandiser of ironers who is a member of the Association has received one print of each subject, without charge. Extra prints are available at \$30.30 each for 35-mm. and \$9.89 for 16-mm., complete with

Members of the Ironer Division of the American Home Laundry Manufacturers' Association have financed the production and distribution of two television films aimed at the consumer. Shown is a scene from one of the animated films.

COURTESY WILDING PICTURE PRODUCTIONS.



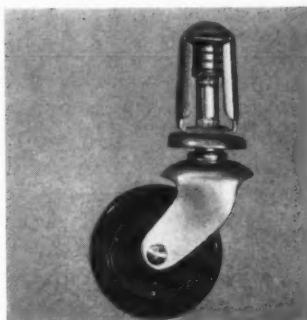
Leading Appliances ROLL EASIER on NAGEL-CHASE CASTERS

**Precision Built for
Long-Hard Service
by Caster Specialists**

NAGEL-CHASE Casters are used by many leading manufacturers of mobile appliances. Built in a wide range of sizes and types from 1½" to 3", and with strong plastic and hard or soft rubber composition wheels, the standard Nagel-Chase Casters will suit the needs of most appliances built today. Consult Nagel-Chase on your caster requirements.

*There is a Nagel-Chase Caster Built to
Suit Every Mobile Appliance.*

WRITE FOR CATALOG TODAY!



▲ 2109-11

**1½" Pintle Type Caster
with hard rubber composition
wheel.**

◀ B2614-62P

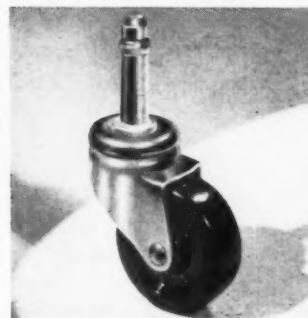
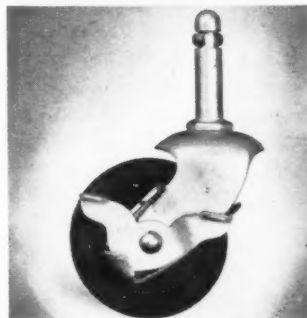
**2½" Swivel Type Caster
with strong plastic wheel.**

◀ 2114-62PH

**2½" Pintle Type Caster
with plastic wheel and cam
brake.**

▼ 2121-14P

**2" Pintle Type Caster with
Hooded Fork and durable
plastic wheel.**



▲ 21-58BB-14P

**2" Pintle Type Ball Bearing
Caster with strong plastic
wheel.**

NAGEL-CHASE V-BELT PULLEYS for Belt-Driven Appliances

NAGEL-CHASE V-Belt Pulleys are ideally suited for use in belt-driven washers and dryers.

They are made from spot-welded, pressed steel, with rolled or flanged edges, so designed that the pulley cannot come loose from the hub.

For production economy and trouble-free service specify Nagel-Chase V-Belt pulleys for all belt driven appliances. Complete information gladly furnished on request.



THE NAGEL-CHASE MANUFACTURING COMPANY
2811 N. Ashland Avenue, Chicago 13, Ill.
SPECIALISTS IN CASTERS AND PULLEYS FOR NEARLY A QUARTER CENTURY!



finishfoto

At the summer meeting of the American Home Laundry Manufacturers' Association, it is customary to present the immediate past president with a token gift in appreciation for his work in behalf of the Association. Here, A. H. Noelke, AHLMA executive secretary, presents H. Paul Nelligan, left, of Easy Washing Machine, with a camera.

reel and metal shipping container.

Some may ask why we produced these films during the present unsettled conditions when we do not even know to what extent or how long the defense program will interfere with the ironer business.

The reason is simple: our program

is a long-range program, designed for today, tomorrow and after we are back in a highly competitive market. This is the time for us to show our faith in the ironer business if we expect dealer and distributor cooperation through the days to come.

Views of executives in home laundry field

Editor's Note:

Finish invited executives of producing companies to comment on the future of the washer-ironer-dryer industry. The following are a few of the early replies to this invitation.

"expanded facilities for both defense and ironer production"

Hal Biddle, general sales manager, Ironrite, Inc. —

"We are attempting to utilize our greatly expanded facilities for defense production in addition to our ironer activities, but, except for all-out mobilization, we shall fulfill our obligations to American homemakers through continued production of ironers, consistent with government regulations.

"We feel that ironers for the home are still in the process of coming into their own, but that we are definitely 'over the hump' in creating interest. And as we are able to increase our television coverage and supplementary promotion, we will be ever able

to improve the saturation figures and bring ironers into many more millions of American homes. . . ."

"we are very optimistic"

E. L. Farquharson, sales manager, Home Laundry Division, Landers, Frary & Clark —

"We are very optimistic and hopeful of doing a lot of Laundry Equipment business this fall and supply the public with a line of wringer machines and ironers at extremely attractive prices. . . ."

"future greater than ever"

L. F. Koranda, sales manager, Horton Manufacturing Co. —

"The future for the Home Laundry equipment is greater today due to the development of the dryers, and the automatic washer than it ever has been. Although we are an old industry, the development of these two new products gives us a broad horizon for future business and to ease the

work of the housewife. The future is greater than the past. . . ."

"TV film — a shot in the arm"

L. O. Reese, vice president and general manager, Armstrong Products Corporation —

"The proposed TV film being sponsored by AHLMA to promote automatic ironers, will be an excellent 'shot in the arm' for the industry."

"excellent volume of business"

H. A. Bumby, president, Speed Queen Corporation —

"Speed Queen sales for the first half year were most satisfactory. For the greater part of the time, orders exceeded production because of government restrictions on materials. While some further curtailment of production may be caused by further government restrictions of materials, we are looking forward to an excellent volume of business over the balance of the year. . . ."

"industry progress outstanding"

R. J. Sargent, manager, Laundry Equipment Sales Department, Westinghouse Electric Corporation —

"The progress in the laundry equipment field since the war has been outstanding. Not only has the industry come up with better home laundry equipment, but it has gone a long way toward educating the consumer on how to use this equipment. Studies have shown that many synthetic fabrics can be washed in automatic laundry equipment, and dried as well, that were listed as 'hand wash only' fabrics. It is this joint interest of product development and research in washability that has placed the laundry equipment field in its present high status. . . ."

"plant capacity increased 33%"

George P. Castner, General Manager, Beam Manufacturing Company —

"We have completed an addition to our plant which increased our plant capacity by 33% and provided

Easier, speedier assembly with new one-piece SPIN-LOCK Screw!

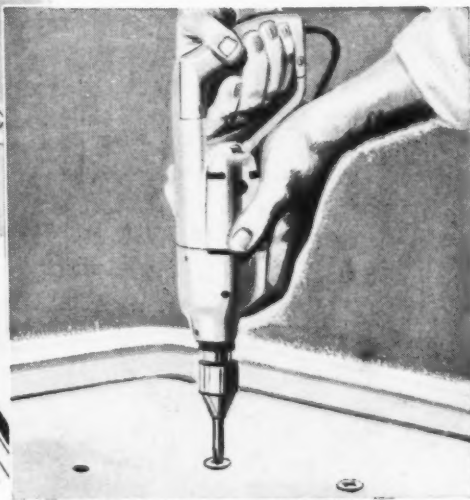
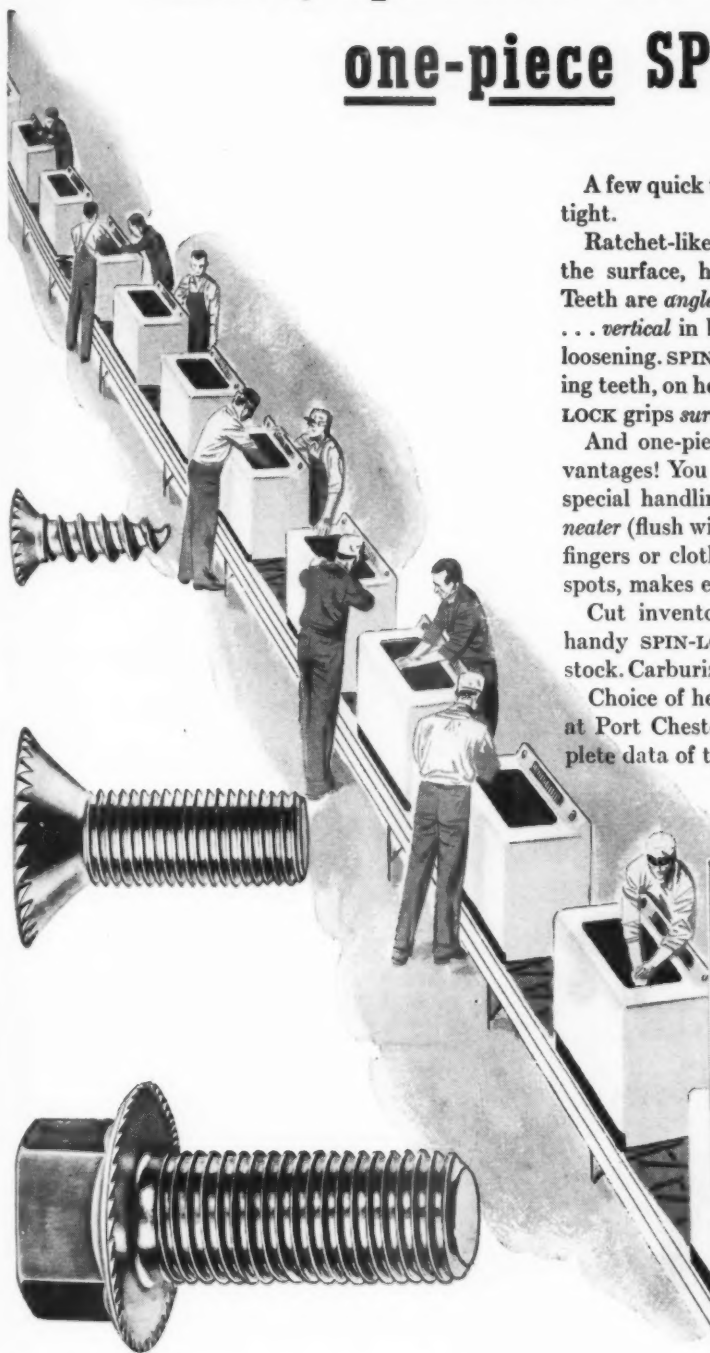
A few quick twists, and you're *sure* this fastener holds tight.

Ratchet-like teeth under SPIN-LOCK's head lock into the surface, hold tighter despite extreme vibration. Teeth are *angled* on advancing side for easy tightening . . . *vertical* in back to bite into the surface to prevent loosening. SPIN-LOCK grips *stronger* . . . due to more locking teeth, on head's *outer* edge for greater contact. SPIN-LOCK grips *surer* . . . no parts to cant or fall off.

And one-piece SPIN-LOCK gives scores of other advantages! You save time . . . no extra part to add, no special handling. It's easy to hopper-feed. It fastens *neater* (flush with surface), *safer* (no projections to catch fingers or clothes). It's easy to drive in hard-to-reach spots, makes excellent contact in electrical equipment.

Cut inventory and purchasing costs with RB&W's handy SPIN-LOCK Screw. Just one part to buy and stock. Carburized so teeth won't wear out despite re-use.

Choice of hex, pan, truss, or flat heads. Write RB&W at Port Chester for free SPIN-LOCK folder, with complete data of types and specifications.



RUSSELL, BURDSALL & WARD BOLT AND NUT COMPANY

Plants at: Port Chester, N. Y., Coraopolis, Pa., Rock Falls, Ill., Los Angeles, Calif. Additional sales offices at: Philadelphia, Detroit, Chicago, Dallas, Oakland. Sales agents at: Portland, Seattle.

RB&W
THE COMPLETE
QUALITY LINE

106 YEARS MAKING STRONG THE THINGS THAT MAKE AMERICA STRONG

finish SEPTEMBER • 1951



Shown at summer meeting of AHLMA were, left to right: James Muirhead and C. L. Atkinson, both of Easy Washing Machine Corp., and H. A. Riemen, Economics Laboratory.

finishfotos

Appliance Manufacturing Co. was well represented at the summer meeting. Shown are R. F. Doyle, John G. Talaba and W. J. Roth.



air-conditioned facilities for our office and engineering department.

"Our production has shifted more heavily to automatic washers from conventionals and up to date at least, we have been on a straight allocation basis with our customers.

"While the addition recently completed was originally planned for increased washer production, it is being used primarily for defense work, in

which we have been engaged since last September. . . ."

"on Government regulations"

John M. Wicht, vice president, Blackstone Corporation —

"As Chairman of the AHLMA Government Committees, I am active on contacts with N.P.A., O.P.S. and the sources in Washington which are currently regulating our business. Con-

D. J. Patton, P. J. Petto, Sr., and Peter Petto, Jr., attended the meeting as representatives of Arrow Aluminum Castings, new associate member of the American Home Laundry Manufacturers Association.



siderable legislation is presently pending or undergoing change . . . and I sincerely hope that stress can be placed upon the need for relaxing Regulation W, particularly as it should include the trade-in as portion of the down payments on washing machines. In this instance, it has been clearly evidenced to the Federal Reserve Board and those legislators considering the regulation, that over 50% of the washing machines being sold incorporate a trade-in. Limitation orders on materials are curtailing production and from all indications, will continue to do so for at least the balance of the year. . . ."

"relaxation of credit controls will stimulate consumer buying"

H. Paul Nelligan, president, Easy Washing Machine Corporation —

"We expect that the relaxation of Government credit controls, reducing down payment, allowing the trade-ins to apply toward a down payment, and extending the number of months to pay the balance will be a stimulus to consumer buying of home laundry equipment.

"Easy is now in the process of converting part of its facilities to defense contracts. . . ."

"hard selling needed"

James J. Nance, president of Hotpoint, Inc. —

"I would like to say with the strongest possible evidence that 1951 can be a great year for everyone. We know that there is merchandise to sell, and we know that incomes are high, but it is going to call for hard selling."

"dryer market barely scratched"

H. G. Evans, vice president, Hamilton Manufacturing Co. —

"The fact that sales of automatic clothes dryers have continued to increase despite a falling off in sales of other major appliances indicates that the market for automatic dryers has barely been scratched. . . . There are more than three-quarters of a million clothes dryers now in use despite all of the manufacturing restrictions that have blocked maximum output of the dryer manufacturers.

Need help with your Defense Contracts?



plan now with MONARCH

for the aid you need in completing your defense commitments on time. Take advantage Today of the specialized experience and engineering knowledge we gained so well during World War II.

With our modern facilities—readily adaptable to defense production—and our peerless engineering “know-how”, New Monarch is ready to assist you in the solution of your most perplexing production problems.

Whether it be a single stamping or a complete assembly requiring dies, jigs, stampings, assembly, finishing and packing, you will find New Monarch's Complete From-Blueprint-To-Shipping-Carton Service invaluable to you.

Write Now or send blueprints for estimate



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America's
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...Revolutionary
NEW Primer for faster,
better finishing of
laundry appliances

- ★ Simplifies application problems
- ★ Less than half ordinary film thickness provides more protection and greater mileage
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- ★ Faster, easier and less expensive to apply

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MAKERS OF NUBELITE • BOMBAY BLACKS • SPATTERLOID • SPATTERTONE AND OTHER FAMOUS INDUSTRIAL FINISHES

NEWS

HAASE NAMED MCCRAY PRESIDENT

Mrs. L. O. McCray, chairman of the board of McCray Refrigerator Co., Kendallville, Ind., has announced the election of Henry M. Haase as president and director of the company, succeeding J. W. Hart who recently resigned.

FEDDERS CHAIRMAN RESIGNS

Frank J. Quigan, chairman of the board, Fedders-Quigan Corp., Buffalo, has resigned that position because of ill health. No new board chairman has been named.

HUSSMANN SALES UP 24%

Net sales of Hussmann Refrigerator Co., St. Louis, during the first six months of 1951 were 24 per cent above those during the same period of 1950, according to W. B. McMillan, president.

REVCO FACTORY EXPANSION

Revco, Inc., Deerfield, Mich., manufacturers of home freezers, has completed a plant expansion program which adds 70,000 square feet of floor space, stated Gregg F. Forsthoefel, president.

The expansion includes a new continuous bonderizing, spray-painting system, a new engineering building housing testing, research and laboratory, and a new steel warehouse.

Proposed future expansion, now in the blueprint stage, anticipates the need for doubling present space, said Forsthoefel. In the past five years,

Revco has doubled its size and nearly quadrupled manufacturing output.

EXPECT 200 EXHIBITORS

AT REFRIGERATION SHOW

More than 200 manufacturers of refrigeration and air conditioning equipment will exhibit at the 7th All-Industry Refrigeration and Air Conditioning Exposition to be held November 5-8 at the Navy Pier in Chicago, according to L. C. McKesson, Exposition committee chairman.

The all-industry show is sponsored by the Refrigeration Equipment Manufacturers Association, and is a national trade show with admission free, by registration, to anyone identified with the refrigeration and air conditioning industry.

WILLIAM GRUNOW DIES

William C. Grunow, co-founder of the Grigsby-Grunow firm in 1927, to make "Majestic" radios and refrigerators, died in Chicago, July 6.

Grunow left the firm in 1931 and sometime later began to make the now defunct "Grunow" refrigerator which stirred up considerable fuss in the industry because of its claim as being "the only safe refrigerator for the home."

WESTINGHOUSE MAN GETS

\$5000 AWARD FOR INVENTION

Graham S. McCloy, engineer in Westinghouse Electric Corp.'s appliance division plant, Springfield, Mass., was recently awarded \$5000

for inventing the company's "Frost-Free" refrigerator. The award is part of the company's program designed to reward outstanding company inventors.

Although McCloy developed the refrigerator in 1941 when he was a design engineer, World War II prevented its immediate manufacture.

HAAG NAMED PERFECTION V.P.

William H. Haag has been named vice president of Perfection Stove Co.'s manufacturing and purchasing activities, assuming the post left vacant by the retirement of C. A. Blackburn.

Haag joined Perfection in 1928 as a production engineer, working under Blackburn. Three years later he became production manager of the firm's Ivanhoe Road plant, and in 1947 was named works manager of both the Ivanhoe Road and Platt Avenue plants.

HOWARD WOLF TO NPA

COMMITTEE

Howard C. Wolf, assistant to the president, Mullins Manufacturing Corp., and also president of the Pressed Metal Institute, has accepted a membership on the Job Stampings Industry Committee of the National Production Authority.

Wolf, who started in the sales department of Youngstown Pressed Steel Co. in 1928, has a rich background of experience in the production and sale of stamped metal products. During World War II, he served as a major in the Army Ordnance where he aided in research, redesign and development work. He has been assistant to George E. Whitlock, Mullins' president, since January, 1948.

LESCAZE AWARDED PEI CURTAIN WALL RESEARCH PROJECT

William Lescaze, architect and city planner, has been awarded the initial phase of the Porcelain Enamel Institute's research project covering the development and design of a practicable curtain wall panel of porcelain enameled steel. The announcement

follows a recent meeting of the PEI Curtain Wall Research Committee headed by Leonard Nachman.

Step 1 of the research project will begin immediately, and will entail the collecting and evaluation of existing data on curtain wall systems.

COOLERATOR BOUGHT BY IT&T, FRED WILSON NAMED PRES.

International Telephone & Telegraph Co. has announced the purchase of The Coolerator Company, Duluth, manufacturers of refrigerators, home freezers and electric ranges, from Gibson Refrigerator Co. It was stated that Coolerator will become a division of the parent company, and its brands will continue to be advertised, but it will be strengthened by being part of IT&T's other appliance offshoots—i.e., Federal Radio & Telephone, Capehart-Farnsworth, and Federal Telecommunication Laboratories.

Fred Wilson, president of Capehart-Farnsworth, was named president of Coolerator. E. W. Skowbo, operations vice president, and G. L. Rees, vice president - sales, will continue on with Coolerator. L. W. Hamper, a Gibson executive who was formerly president of Coolerator, and C. J. Gibson, Sr.



New de-enameling plant—opened in Aurora, Illinois. Shown in photo, left to right, Arthur M. Lander, president, New Process D-Enameling Corp., Mayor Lloyd A. Markel, of Aurora, and Earl P. Calkins, New Process vice president. Said to be the only production operation of its kind in existence for stripping defective porcelain enamel coatings from steel, the plant offers a saving of almost 100 tons of steel a day in the appliance industry alone. Additional plant facilities are contemplated.

and C. J. Gibson, Jr. have resigned as officers and directors of the company.

The Duluth firm was founded in 1934 as a manufacturer of ice refrigerators. Shortly before the start of World War II, it began turning out electric refrigerators. In 1943, Coolerator was sold to Gibson, and freezer and electric range lines were added.

of porcelain enameled signs, table tops, washing machine tubs, etc.

Shown in photo, surrounded by a background of enameled products, are: left to right—J. H. E. McMullen, Ing-Rich vice president; R. A. Dadisman, president of Porcelain Enamel Institute; Hugh Patton, Ing-Rich executive vice president; Edward Mackasek, PEI managing director; J. Fred Ingram, Ing-Rich president; and Jack H. West, Armco Steel Corp.

ING-RICH CELEBRATES FIFTIETH ANNIVERSARY

Fifty years of porcelain enameling were celebrated recently by Ingram-Richardson Mfg. Co., Beaver Falls,

Pa., with an open house for customers, friends and employees. The firm specializes in the manufacture



NEW PLANT FOR SUNROC, TO MAKE WATER COOLERS FOR GOVT.

Sunroc Company is constructing a new plant at Glen Riddle, Pa., for the manufacture of electric water coolers and purifiers.

It is expected that at least a part of Sunroc's order for 20 electric water coolers of various models for the Naval Training Center, Bainbridge, Md., will be made in the new plant.

The firm has also been awarded three contracts by the Chicago office of the General Services Administration, Federal Supply Service. The first contract calls for more than 1000 electric water coolers. Two other contracts are for 180 and 35 coolers respectively.

It's as simple as that...

"OUT OF OUR CARTON - INTO YOUR DOOR"

PERMA-VIEW

**..THE WINDOW YOU
CAN SEE THROUGH**

Always....



Photo of another range with PERMA-VIEW windows. General Steel Wares, Ltd., Toronto, Ontario, Canada, is one of the growing number of range manufacturers featuring the "visible baking" feature.



Yes sir, it's as simple as that. The PERMA-VIEW oven door window comes to you ready for immediate installation in your range—to add a sales feature second to none, as the demand grows for "visible baking."

The strong steel encased, double pane PERMA-VIEW window incorporates the finest quality heat resisting glass. It is mechanically sealed to prevent infiltration of vapors and to eliminate "fogging."

More and more range manufacturers are turning to PERMA-VIEW as a practical, economical and effective sales feature for their new models. We will gladly work with your engineering department in adapting its use to *your* new range. Write for complete information.

MILLS ENGINEERING COMPANY

3683 EAST WILLIS DETROIT-7-MICHIGAN

THOR LICENSES ITALIAN FIRMS

The firms of Aldo Galante and San Giorgio, both of Genoa, have been licensed by Thor Corporation, Chicago, to manufacture and sell the company's products in Italy, it was announced by Frank Pollaczek, Thor export manager.

This is the second such licensing agreement signed by Thor recently. Catita S. A., of Buenos Aires, was licensed in April to make and sell Thor products in Argentina.

FROM FATHER TO SON

NIAA president 25 years ago, Bennett S. Chapple, Sr., of Armco Steel Corp., presents his son Bennett S.



Chapple, Jr., of U.S. Steel Corp., with an engraved watch on behalf of the National Industrial Advertisers Association. The presentation was made at a banquet held in New York City. The watch is a traditional gift to outgoing NIAA presidents.

RHEEM BUYS GRAHAM MFG., GAS RANGE MANUFACTURER

Rheem Manufacturing Co. is continuing its expansion in the major home appliance field, the latest move being the purchase of controlling interest in James Graham Mfg. Co., Newark, Calif., for an announced \$3,000,000.

It was stated that Clarence Graham, Sr., son of the founder of the West Coast gas range firm, will continue to manage the business. The move was seen as giving the firm's

Wedgewood range line a chance to expand.

A leading producer of water heaters, Rheem only recently announced plans for the production of a gas refrigerator.

SPANISH FIRM TO MAKE FULL LINE OF APPLIANCES

A 15-year renewable contract to manufacture a full line of home appliances on a royalty basis was recently concluded by a concern in Bilbao, Spain, and a large U. S. electrical company, the Department of Commerce announced.

YORK TO MAKE AVIATION ROCKET MOTORS FOR NAVY

A long-term contract to build large Naval aviation rocket motors, and valued at more than \$2,500,000, has been awarded to York Corporation, York, Pa., it was announced by Stewart E. Lauer, York president.

Initial work on the contract is expected to begin before the end of the current year, with approximately 100 persons assigned to the project on a two-shift basis. A few minor shifts will permit continued manufacture of refrigeration and air conditioning equipment, said Lauer.

NESCO SALES INCREASE FOR SIX-MONTH PERIOD

Arthur Keating, chairman, Nesco, Inc., reported sales of \$13,579,080 for the first half of 1951 compared with \$8,011,936 for the same period of 1950.

Keating said "We have an approximate \$22,000,000 backlog of defense orders and we expect to manufacture \$9,000,000 of the total this year. This will insure our earnings for the last half of this year, as we will be manufacturing full tilt on defense products from now on."

FLORENCE STOVE DEFENSE WORK TOTALS \$11 MILLION

Florence Stove Company, Gardner, Mass., now has \$11,000,000 in defense contracts and expects to receive

more in the near future, according to Robert H. Taylor, president. By November or December, the company expects to be turning out defense goods at the rate of \$1,000,000 per month.

Taylor made this statement when presenting a fiscal report on the first six months of this year. During that period, the firm had net sales of \$13,390,542 as compared with \$11,143,773 for the same period of last year. Net profit rose from \$206,380 last year to \$397,088.

APPLIANCE MFG. INTRODUCES PORTABLE AIR DRYER UNIT

Appliance Manufacturing Co., Alliance, Ohio, manufacturers of Duchess washing machines, are now produc-



ing a portable air dryer. The unit will dehumidify a confined space of 8000 cubic feet, and will remove better than 2½ gallons of water from the air in 24 hours, under maximum conditions of relative humidity and temperature.

GAS CENTRAL HEATING UNITS FIGURES FOR HALF YEAR

Gas-fired central heating equipment units shipped during the first six months of 1951 totaled 288,400, according to Gas Appliance Manufac-

turers Association, 31.8 per cent below the record-breaking shipments of 422,700 units in the first six months of 1950.

June shipments totaled 37,200 units, divided as follows: gas-fired furnaces 26,500, gas-fired boilers, 3,200, conversion burners, 7,500.

For the half year, furnaces accounted for 192,800 units compared with a pre-war average of 15,500, boiler shipments totaled 31,600 compared with 3,390, conversion burner shipments were 64,000 compared with 8,950.

U.S. STEEL SUPPLY APPT.

Election of S. D. Flinn as director and secretary of United States Steel Supply Co. was announced by Leslie B. Worthington, president of the warehousing subsidiary of U. S. Steel.

GILBERT NAMED ASHDEE V.P.

Announcement has been made of the election of John Gilbert as execu-



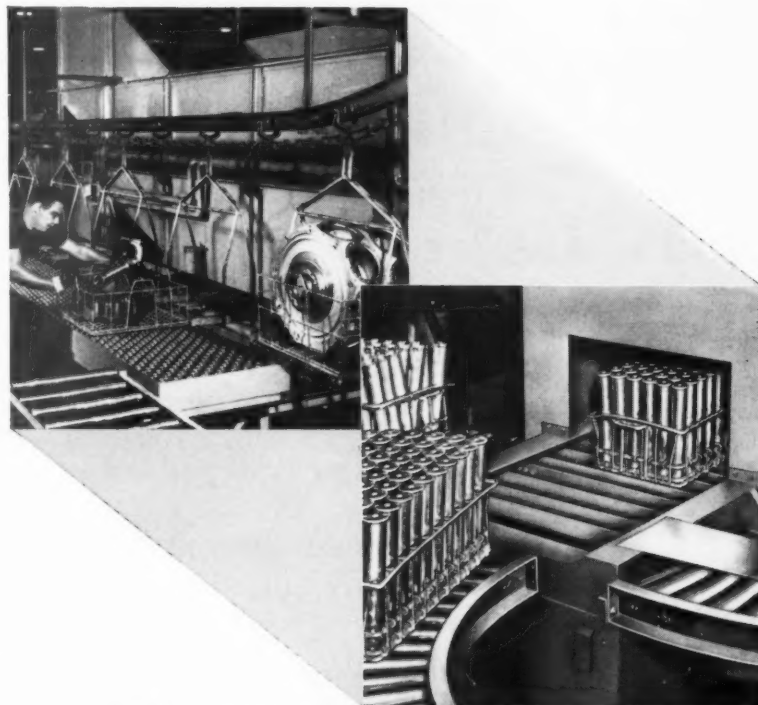
tive vice president of Ashdee Products, Inc., Homewood, Ill., manufacturers of electronic paint spray equipment. In his new capacity he will be in complete charge of all company activities.

PAUL LUX NAMED ASS'T SALES MANAGER OF LUX CLOCK MFG.

Paul Lux has been appointed assistant sales manager of Lux Clock Manufacturing Co., Waterbury, Conn.

finish SEPTEMBER • 1951

for DEFENSE...



Yes, sir! Just as in World War II, Detrex Degreasers and Washers are ready for every industrial cleaning job.

The continuous vapor-spray-vapor machine on the left degreases huge bomber engines . . . and the multi-stage spray washer on the right cleans large cartridge cases.

Detrex "know-how" on every metal cleaning problem—with both war and peace-time experience—is ready to help you on your defense production.

Write now!

Detrex machines will also continue to clean civilian goods



DETREX

BOX 501, DETROIT 32, MICH.

Corporation

Most recently he had been serving as sales representative in the company's industrial division. He joined the company in 1946, following three years as an officer in the Air Force. He is a graduate of Dartmouth.

FAHRALLOY UPS BOB KROC

Robert E. Kroc has been appointed assistant sales manager of The Fahr-alloy Company. He started with the company working in the pattern loft, and after returning from service with

the Navy during World War II he worked as a draftsman and engineer. He was later named to handle Fahr-alloy sales in Michigan, Northern Illinois and Iowa.

KLEM CHEMICALS NAMES REP.

Klem Chemicals, Inc., Dearborn, Mich., has appointed Currier Company as West Coast representative for its line of metal cleaning and conditioning chemicals.

PRESSED METAL INSTITUTE ANNUAL MEETING, OCTOBER 3-5

The Pressed Metal Institute has announced that its annual meeting will be held at the Drake Hotel, Chicago, October 3, 4 and 5.

Highlight of the national convention of the metal stampers will be an address by David F. Austin, executive vice president, commercial department, U. S. Steel Corporation, at the banquet on Thursday evening, October 4. Also featured will be an address on "Steel, Today and Tomorrow" by Tom Campbell, editor of "Iron Age."

Other highlights will be a large scale exhibit of safety devices and their application in stamping plants, together with a program entitled "Tools for Safety." This will launch a broad safety program for the industry.

Technical information will come in for attention, and engineers of the Productivity Team, which went to England (*August 1951* finish, page 49) under the auspices of the Anglo-American Productivity Council of ECA, will report on their impressions and make comparisons between American and British production methods.

Other speakers include F. C. Greenhill, president, The Acklin Stamping Company, Toledo, and J. P. Moloney, member, International Executive Board, and also director of District 4, U. S. Steel Workers of America. They will discuss "Timely International Thoughts."

The activities of NPA will be discussed by J. J. Galbreath, Chief, Formed and Machined Branch of NPA. Other current Washington mat-

ters will also be presented.

PMI states that interesting and full programs are being planned for the ladies.

Further information is available from the Pressed Metal Institute, 13210 Shaker Square, Cleveland, O.

FERRO SUPPLY NAME CHANGE

The name of Ferro Enamel Supply Co., Kirkland, Ill., has been changed to Ferro Electric Products, Inc., for improved product identification, according to D. V. Tuttle, executive vice president of the Ferro Corp. subsidiary.

Ferro Electric, which until recently operated under the direction of Tuttle & Kift, Inc., another Ferro subsidiary, now has its own sales department. Under the new arrangement, the Kirkland concern is concentrating upon the manufacture of switches, selectors, controls and open coil heating units. Tuttle & Kift concentrates on the production of sheathed coil heating elements.

U. S. RADIATOR ACQUIRES CHICAGO HEIGHTS PLANT

United States Radiator Corp., Detroit, manufacturers of domestic heating and air conditioning equipment, has acquired the manufacturing facilities of Highway Steel Products Co., Chicago Heights, Ill. It was indicated that the plant would be used for the production of both steel and aluminum airplane landing mats.

VERSON VICE PRESIDENT DIES

Leon J. Krynski, executive vice president in charge of Verson Manufacturing Co., Dallas, Texas, died recently. He began his career with Verson Allsteel Press Co. in 1938, starting as a time keeper in their Chicago plant. He was transferred to Dallas in 1944 to assume the duties of comptroller. In 1946 he was appointed vice president in charge of the Dallas operations.

HUTT, WALLACE, DANY ELECTED VICE PRESIDENTS OF FERRO

Glenn A. Hutt, G. W. Wallace and E. W. Dany, all veteran employees, were recently elected vice presidents



GLENN HUTT

of Ferro Corporation. In announcing the election, Robert A. Weaver, chairman, stated the growth of Ferro's business and the diversification of its

E. W. DANY



products created a need for the new offices.

Hutt has been assistant to the president, in charge of defense work. Wallace, who will continue as treasurer,



G. W. WALLACE

urer, is a director and executive vice president of Tuttle & Kift, a Ferro subsidiary, as well as director and treasurer of Ferro Chemical Corp. and a director of Ferro Enamels (Canada) Ltd. Dany, chief engineer of Ferro's Engineering Division, has

to Page 98 →

New spraying method..

→ from Page 39

Company officials state that any coating materials which can be readily atomized can be applied by this method. Synthetic enamels, lacquers and varnishes may be handled satisfactorily. It was indicated that no research work has begun yet to see if the new system would be applicable for spraying porcelain enamels.

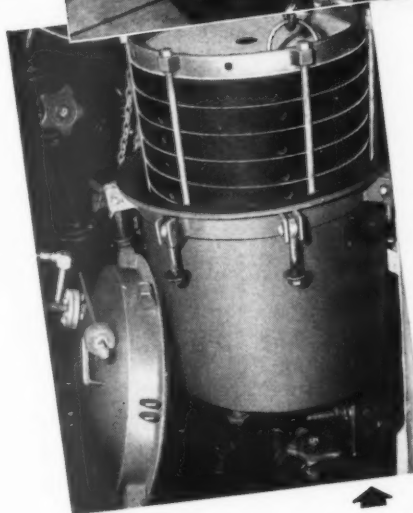
The press representatives also viewed laboratory set-up where washing machine tubs were coated as they revolved past the gun heads. Another lab set-up viewed involved the coating of steel roofing and siding as it passed under the gun heads.

Results from units installed in several plants through the country have been tabulated. As an example, metal ironing boards coated by Geuder, Paeschke & Frey Co., Milwaukee, used 25 per cent less paint with the new process than with Ransburg's older electro-spray process using conventional spray room equipment.

finish SEPTEMBER • 1951

No repairs or maintenance in over 17,000 hours of 'round-the-clock operation

... yet this
SPARKLER
Horizontal Plate
FILTER
is still going strong



Top: Sparkler Model 8-18 filter shown installed in Gillette's plating department.

Above: Same filter, with filter plate assembly being removed for cleaning

Left: Sparkler Model 8-6 stainless steel filter. This portable unit is used by Gillette to filter gold plating solutions.

The kind of service Sparkler Horizontal Plate Filters have given the Gillette Safety Razor Company—efficient and trouble-free, even under most extreme conditions—is the kind of service that is vital to every filtering operation.

For example: A rubber-lined Sparkler Model 8-18 filter is used by Gillette in the continuous filtration of a 1000-gallon bright nickel plating solution. Now operating for approximately two years, this filter has been on a 24 hours a day, 7 days a week schedule — without any loss of operating time for repairs or maintenance. Also used in periodic batch carbon treatments of nickel solutions this unit, according to Gillette technicians, consistently delivers a brilliantly clear effluent, even though the plates may be packed solid.

Another Sparkler Filter employed by Gillette is a Model 8-6, stainless steel, portable unit. Used exclusively for cyanide type plating solutions, this Model 8-6 has proved particularly valuable for Gillette's gold plating operations since the patented Sparkler Scavenger Plate assures minimum loss of precious gold solution. Now operating almost six months for at least 2 hours daily, its performance has been satisfactory in every respect.

Our Engineering Department (with more than 25 years' experience in every phase of filtration) is available for consultation without charge.

SPARKLER MANUFACTURING CO.

MUNDELEIN, ILLINOIS

Medal of Honor



Lieutenant Frederick Henry of Clinton, Oklahoma—Medal of Honor for sacrificing himself to save his platoon in combat near Am-Dong, Korea, September 1, 1950. When the platoon could no longer hold its position, Lieutenant Henry ordered the men to pull back. But someone had to stay behind to provide covering fire. He chose to be that man, and was lost.

Always remember this—Lieutenant Henry offered his life for more than just a small platoon in far-away Korea. It was also for America. For you.

Isn't there something you can do when this man did so much? Yes, there is. You can help keep the land he loved solid and strong and secure. You can do a job for defense . . . by buying United States Defense* Bonds, *now!* For your bonds give your country greater strength. And a strong America is your best hope for peace and freedom—just as it was his.

Defense is your job, too. For the sake of *every* man in service, and for *yours*, start buying more United States Defense Bonds now.

Remember that when you're buying bonds for national defense, you're also building a personal reserve of cash savings. Remember, too, that if you don't save *regularly*, you generally don't save at all. Money you take

home usually is money spent. So sign up today in the Payroll Savings Plan where you work, or the Bond-A-Month Plan where you bank. For your country's security, and your own, buy U. S. Defense Bonds now!

***U.S. Savings Bonds are Defense Bonds - Buy them regularly!**

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The story of Maytag

→ from Page 31

matic washer and most of the stampings are made right in the factory. Plant 2 is perhaps one of the most self-sufficient facilities of its kind in the industry.

Indoor railroad tracks on either side of plant

Indoor railroad tracks on either side of the plant allow raw materials and the finished product to be unloaded and loaded inside the plant with a minimum of difficulty. Two truck docks on either side of the factory also allow loading and unloading of materials inside the plant. A sheet metal department which handles more than 260,000 pounds of steel daily contains many huge presses which were built especially for the Maytag jobs they perform. Some of these presses range in capacity from 30-ton mechanicals to 400-ton hydraulics. The presses are as much as 22 feet tall and extend as low as 15 feet below floor level. The average press run will produce approximately 10,000 parts. Individual dies range in value from \$2000 to \$40,000. A die-casting department turns out all of the small parts for the automatic. And a porcelain furnace uses 6 million Btu's of gas per hour to take care of the porcelain enameling of automatic washer components. This furnace is one of the largest of its kind west of the Mississippi River.

At Hampton, Iowa, Maytag maintains a facility for machining parts for washing machines no longer in current production. The structure was purchased in late 1947 from the government. It was formerly a hemp processing plant. One of the larger new processes at the Hampton plant is powdered metal fabrication.

Hampton is located about 100 miles north of Newton and situated on the Rock Island railroad line which feeds into Des Moines. Some 100 employees make up the personnel at this plant.

Upon the death of his father, Elmer H. Maytag, in 1940, Fred Maytag II assumed the head of the washer company. Mr. Maytag's uncle, Lewis B. Maytag, retired, now of

Colorado Springs, was president of the firm from 1921 until 1926, when Elmer H. Maytag became president.

On the executive side with Mr. Maytag are George M. Umbreit, executive vice president and treasurer; Roy A. Bradt, vice president in charge of distribution; Irwin A. Rose, vice president in charge of manufacturing; Robert E. Vance, secretary; A. C. Danekind, assistant to president; Edward L. Nelson, assistant secretary; Murray B. Nelson, assistant secretary; E. G. Higdon, comptroller; Cyril Quinn, director; and Frederick W. Hubbell, director.

Before the outbreak of the Korean War, the company had plans for an

automatic electric dryer, but has postponed production of that appliance until steel becomes more plentiful. Facilities for that appliance are contained in Plant 2 in Newton.

Other products merchandised by Maytag include an electric ironer, four Dutch Oven gas range models, and two home freezer models. Twelve sales organizations from coast to coast merchandise the Maytag products. There are about 15,000 Maytag dealers all over the country and some 200 regional sales managers who work directly with the dealers.

Export sales of Maytag products are handled by Philco International Corp.



**All the
Coiled Strip
You Need...WHEN
You Need it...
At LOWER
COST!**

You will find it ever so much easier to have all these things when you install a Yoder Rotary Slitter. The sources of supply of mill-width stock are obviously much more numerous, prices per ton much lower, and deliveries much quicker than on slit-to-width strands.

Not only that, but your stock becomes more flexible—goes farther—when mill-widths can in a few hours be slit to the desired widths in your own shop. Many fabricators have reduced inventories from 40 to 60% by investing in a Yoder

slitter. Production planning becomes easier, too, when expected and unexpected needs for any width can be so quickly and easily met.

Besides all these advantages, direct savings may range from \$5.00 to \$50.00 per ton, depending on widths, quantities and other factors. On requirements as low as 1000 tons per year, a Yoder slitter often becomes a most profitable production tool. Get the facts! Send for 78-page book on the Economics as well as the Mechanics of doing your own slitting.

THE YODER COMPANY • 5559 Walworth Ave., Cleveland 2, Ohio

Complete Production Lines

- ★ COLD-ROLL-FORMING and auxiliary machinery
- ★ GANG SLITTING LINES for Coils and Sheets
- ★ PIPE and TUBE MILLS—cold forming and welding



We're Doubling



PROVE these advantages for yourself

1. More uniform grinding
2. Improved color stability
3. Greater resistance to hairlining
4. No dust in mill loading
5. More uniform set characteristics
6. No precipitation of soluble salts



A. Molten glass flowing from continuous smelter onto rollers, as Art Thomas, pro. supt., looks on.

B. Rudy Foster, foreman, examining white-hot glass sheet as it passes from rollers into a pulverizing hopper.

C. Flake frit is carried from pulverizer over two helical-Syntron elevators to cool before packing.

D. Ferro President, Dad Clawson and Exec. V. P., Jim Martori, checking the valve packing machine.

Production of Ferro Flake Frit

**Results with first 12,000,000 pounds
prove BIG advantages for Porcelain
Enamellers... Revolutionary NEW Frits
now available for entire industry**

HERE'S WHAT USERS SAY ABOUT FERRO FLAKE FRITS

- "We've found much greater resistance to hairlining since using Flake Frit."
- "Color stability has noticeably improved with the new Flake material."
- "The first thing we noticed with the Flake Frit was that it practically eliminated hazardous dust in the mill loading process."
- "We're getting much more uniform set characteristics . . ."
- "Our inspectors say we're getting a more uniform bubble structure since we started using Flake Frit."
- "Our whole process has generally improved . . ."



FERRO CORPORATION

4150 East 56th Street
Cleveland 5, Ohio



New Supplies and Equipment

I-20. Phosphate treatment provides corrosion-resistant paint base

A new phosphate compound for treating metallic parts gives uniform results and is said to be one of the pre-painting treatments that meets the specification for Class C (Type II) finish in U.S. Army Specification No. 57-0-20. It also meets the armed services specification JAN-C-490, Grade 1, and can be used on military equipment on which paint failure cannot be risked.

The compound is a non-conductive, so that electrochemical breakdown of the paint coating cannot occur. The phosphate compound acts as an insulating barrier between the metal and paint. Applicable either by immersion or spray, it is adaptable to both small and large production needs.

I-21. Low-cost door fastener



Designed for fast, easy application to sheet metal doors and panels, a new door latch features a low purchase price and low installation cost. The latch consists of two brightly plated parts which fit together through a single hole drilled in the door panel. Installation is completed in a matter of seconds by twisting or flattening two prongs which join the handle and pawl—no rivets, bolts or welds needed.

The handle may be used on doors for hot water heaters, air condition-

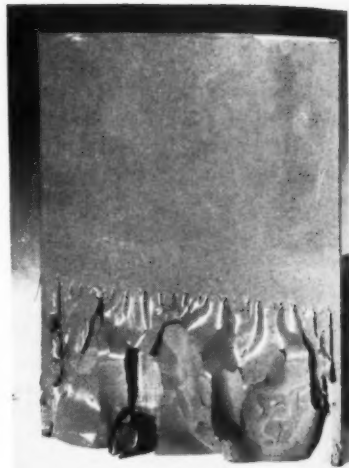
More Information

For more information on new supplies, equipment and literature reviewed here, fill out the order form on page 73, or write to us on your company stationery.

ing units, cabinets, control boxes, sheet metal closures, etc.

I-22. Synthetic enamel stripper

The accompanying photo illustrates the stripping action of a new enamel stripper. The lower half of the photo shows what happens when the enamel is attacked. The wrinkling action, in contrast to a solvent action, causes the enamel to contract and lift away



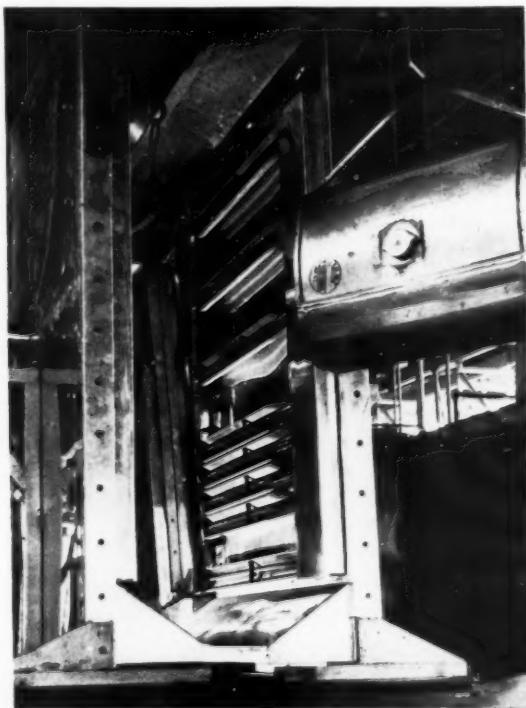
from the base metal. Because of this wrinkling action, very great stripping life is said to be obtained from this type of enamel stripper.

I-23. Using an infra-red oven to dry large metal parts

Drying of large metal parts has been improved by changing from manually directed hot air blast to a controlled electric infra-red oven at the plant of a Detroit tractor manufacturer. The new conveyorized set-up automatically dries widely varying part sizes and shapes for paint spraying. The metal parts are conveyed

through an 8-foot oven at a rate of 25 feet per minute, and the parts temperature is raised well above boiling point in a 20-second exposure time. The parts leave the oven and cool in a 50-foot travel to the paint booth.

Arrangement of heaters in the oven is as follows. Each of two halves



contain 14 electric radiant heaters on a 230 volt line — six vertical ones rated at 2.5 Kw. each, and eight horizontal rated at 1.8 Kw. each. The latter are spaced so as to concentrate more heat in the area through which the heaviest sections of metal pass. A power blower located behind the vertical heaters drives high velocity air through the oven.

Industrial literature

910. Folder on one-piece lock fastener which speeds appliance assembly

Ratchet-like teeth under the head of a new lock screw fastener "locks" into the surface, and hold tighter despite extreme vibration. In appliance assembly, work is speeded up because of the one-piece lock screw—no extra part to add, no special handling. It fastens flush with surface, with no projections to catch fingers or clothes. There is a choice of hex, pan, truss, or flat heads. Send for free folder which gives complete data of type and specifications of the lock-screw type fastener.

911. Folio on demineralizers

Industrial demineralizers which provide savings as high as 85%, and in one reported instance cuts costs 98%, in comparison to distilled water costs, are described in a new folio giving specifications of single, double and four-column demineralizers.

912. New metal cleaning bulletin

A brand new bulletin dealing with the heavy duty cleaning of ferrous metals is just off the press. Included are sections on soak tank cleaning, spray cleaning and electrolytic cleaning, as well as a lot of other information—all on the subject of ferrous metal cleaning.

913. Three-in-one cleaning compound

A new folder describes a compound with the ability of combining three jobs into one operation: oil removal, rust removal, and preparation for

painting. It is said to be effective for soak-cleaning metal parts of moderate size. Among some products to which it is now being applied are: fireplace gas heaters, metal awnings, lighting fixtures, radiation wall heating units, and parts for refrigerators, steel kitchen cabinets and laundry machines.

914. Bulletin on super refractories

A brand new 20-page two-color booklet on super refractories gives technical information of a basic nature of these products. The text material is supplemented with charts,

tables and illustrations on refractories for heat treating, ceramic ware firing, etc.

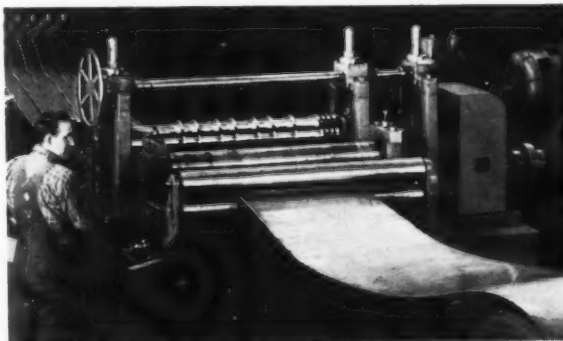
915. Booklet on cleaning metal in industrial washing machines

A new booklet on cleaning metal in industrial washing machines is designed to help metal fabricators and finishers in the proper choice and use of metal cleaning compounds for industrial washer use. The booklet contains information on all the basic types of metal cleaning compounds used in aqueous systems, alkaline, emulsion and acid.

916. Mechanics of slitting told in 78-page book

Photo shows a rotary slitter installed in the sheet metal fabrication department of a leading automatic washing machine manufacturer. This unit will slit coiled stock up to 48" wide and 1/8" thick, and a total number of 12 cuts from 48" coil stock. Direct savings on this type of slitter

may range up to \$50 per ton. On requirements as low as 1000 tons per year, this rotary slitter can be a profitable production tool. For more facts, send for 78-page book on the economics as well as the mechanics of doing coiled strip slitting in your own plant.



FINISH
360 N. Michigan Ave.
Chicago 1, Illinois

Please forward to me at once information on the new supplies and equipment and new industrial literature as enumerated below:

No. _____ No. _____ No. _____ No. _____

No. _____ No. _____ No. _____ No. _____

Name _____ Title _____

Company _____

Company Address _____

City _____ Zone _____ State _____

Importance of industry-wide cooperation

(Continued from Page 47)

savings again are gained for each cooperating company, repaying many times the cost of its membership in the Association.

The appliance industry's most comprehensive statistical reports

The Market Research Committee concerns itself with various sales and distribution factors reflecting the market for home laundry equipment. Monthly reporting of members' sales

in units and dollars is more comprehensive than in any other major appliance industry. With 1950, the members also began voluntary reporting of sales by types of retail outlets. They also report sales by trading areas, under the McCarthy or Hearst Publications system.

The statistics and other trade information thus supplied by the Association to its members enable the individual manufacturer to gauge his

own sales comparatively and competitively, district against district of his own, against the sales of other similarly reported big-ticket items. The service given by the Market Research Committee makes it possible for each member to observe public buying trends in appliance types, unit volume and dollars to adjust his own production and sales policies accordingly.

Service problems and responsibility

Service in all its aspects is one of the important phases of any appliance manufacturer's business. It is largely through service that he is enabled to maintain user goodwill. The dealer interested only in selling merchandise and not interested in servicing the merchandise he sells is a positive deterrent to the continued good standing of the manufacturer in that retail area. Objectives sought by our Parts and Service Committee were planned for the common good of the manufacturer, the dealer and the ultimate consumer. They include:

Serious consideration of service responsibility by the manufacturer when building his sales organization; selling, along with the product, the service requirements faced by the dealer; carrying service instructions to both the distributor and dealer level; establishing in the dealer the determination to build a good service department; regulating the distribution of repair parts so that our members' products are repaired with genuine parts as produced by them.

Foreign trade

Washers manufactured by members of American Home Laundry Manufacturers' Association were exported to more than one hundred countries in 1950. The over-all significance of foreign trade and the possibility of its great improvement upon the betterment of world conditions gives especial importance to the work of the Association's Foreign Trade Committee.

The National Sanitation Foundation

With the increasing use of self-service public laundries, various public agencies began centering their

to Page 76 →

*Our plants are part of
your production line*

Our Production Planning

Quality

Testing

Application

Research

*... Are all geared to meet
your requirements*

*Ask your Fiberglas representative
about these services*

The universal appliance insulation

OWENS-CORNING
FIBERGLAS
insulated

FIBERGLAS INSULATION MADE BY
OWENS-CORNING FIBERGLAS CORPORATION - TOLEDO 1, OHIO

*Fiberglas is the trade-mark (Reg. U.S. Pat. Off.) of Owens-Corning Fiberglas Corporation for products made of or with fibers of glass.

Phosphate base glasses

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do not exhibit the undesirable physical softness which characterizes many low temperature glasses. Specific hardness measurements were not made, but the enamels resisted scoring when scratched with a hardened steel knife blade.

Preliminary "accelerated" tests¹⁵ have indicated somewhat limited weather resistance with these compositions. Actual weathering tests are currently being conducted at several U.S. locations and compositional changes are being explored which may lead to improved weatherability. In general, increased acid and weather resistance are obtained through decrease in boric oxide and through inclusion in the frit composition of titania or the divalent oxides (particularly ZnO). Compensating adjustments must be made to permit these oxides to be included without sacrifice of fusibility. In this respect, increases of fluorine are beneficial.

Effect of alloy employed

As far as is known, the type of alloy employed has little or no effect upon the properties of these enamels. Alloys 25, 35, 24ST, 75ST and cast aluminum have been enameled successfully. However, experience with these enamels has been limited entirely to laboratory trials.

Summary and conclusions

1. Low temperature lithium phosphate base compositions are suitable bases for formulation of lead-free enamels for aluminum and its alloys.

2. In order to prevent reaction with aluminum, ground coat compositions should contain approximately .20 mols of CuO per mol of total R_2O plus RO. Other easily reducible oxides, such as those of cobalt or lead might be employed, but they are not as effective in obtaining good adherence.

3. Low fusion temperatures (below 1000°F.) are obtained through the use of lithium oxide, fluorine and boric oxide.

4. Precleaning of metal is neces-

sary and an etching treatment with alkaline or acid solutions is effective in promoting adherence. When this pretreatment is employed, adherence is excellent.

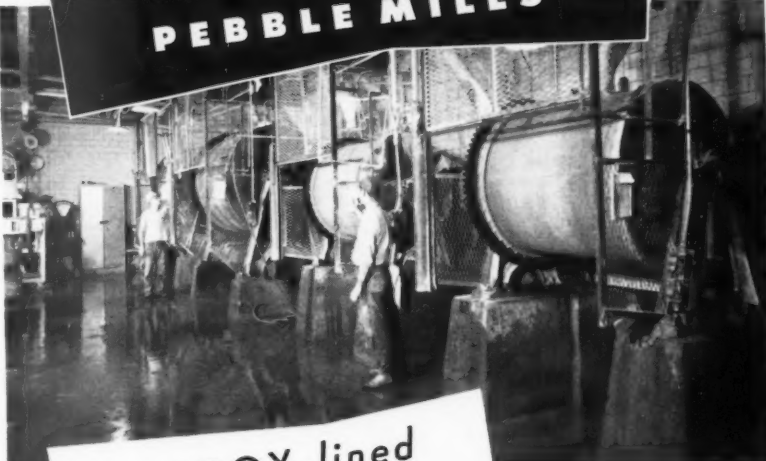
5. Class A acid resistance was obtained in cover coat compositions, indicating that these enamels are satisfactory for most indoor applications. Surface texture and gloss are excellent. Hardness is satisfactory.

6. Improvement in weatherability would be desirable for outdoor use.

From the limited compositional ranges, it can be surmised that enamels may be developed which approach in properties those of commercial steel enamels. The field of lithium phosphate glasses should be of continuing interest for all low temperatures applications, including the enameling of light metals other than aluminum. Other applications of interest may be: low temperature ceramic glazes, abrasive frits, ceramic color fluxes and glass-to-metal seals.

Patterson

PEBBLE MILLS



POROX-lined

... for finer enamel grinding!

Snow-white, hard and tough POROX Grinding
Balls and Mill Lining Blocks carry out the
finer grinding of PATTERSON MILLS with no
product contamination . . . your ideal combination
for finest enamel production.



Richard L. Cameron
President

The Patterson Foundry and Machine Company East Liverpool, Ohio, U. S. A.

NEW YORK, BOSTON, BALTIMORE, PHILADELPHIA, PITTSBURGH, DETROIT, CINCINNATI,
CHICAGO, ST. LOUIS, HOUSTON, DENVER, LOS ANGELES, SAN FRANCISCO, SEATTLE

The Patterson Foundry and Machine Company, (Canada) Limited

Toronto, Canada
MONTREAL

¹⁵ B. J. Swen, "Correlation of Weather Resistance of Porcelain Enamels with Chemical Test Data", J. Am. Ceram. Soc. 32 (11) 356-59 (1949).

→ from Page 74

attention on the possibility of the spread of disease among the families patronizing these concerns.

Even though no information was available to confirm the belief, expressed in some quarters, that public coin-meter washers could become a menace to public health, AHLMA members agreed that it was important to determine whether any such health hazards existed. If they did, they would be a menace to the industry as

a whole, and it would be incumbent upon the Association to seek out means for eliminating them.

The Executive Committee thereupon familiarized itself with the work of the National Sanitation Foundation, a public health research organization with its headquarters and laboratories on the Ann Arbor campus of the University of Michigan. The Association named a National Sanitation Committee and made a grant to the Foundation. Under the general

direction of Dr. Henry F. Vaughan, president of the Foundation and dean of the School of Public Medicine of the University, a research program financed by the Association was begun in May, 1949. The study continues. The National Sanitation Foundation Committee is the liaison organization for the Association and the Foundation and it keeps the industry members informed by means of periodic progress reports.

Use of the Foundation's research facilities has great strategic value for the Association. By availing itself of the services of a research organization which enjoys undisputed high standing in an intensely specialized field, there can be no question of the industry's sincerity in ferreting out whatever danger spots may exist and perfecting techniques for obliterating them.

Trade practices

Our Trade Practices Committee concerns itself with presenting to the industry members a restatement of present Federal laws pertaining to the conduct of their business. This is done for the purpose of facilitating manufacturers' general close adherence to wholesome principles of management and trade contact.

The budget program

The Finance and Budget Committee and the Treasurer of the Association keep themselves thoroughly informed upon the Association's financial status. Under their supervision funds have been accumulated for extending the promotion activities of the Association. The budget, through the well developed and detailed presentation of receipts and expenditures, actually constitutes a specific program of the Association's activities.

Developments in Washington

The Government Committee works for the best mutual interests of industry and government. It keeps itself informed on all those developments in Washington government which have any possibility of affecting, in any way, the orderly advance of this industry in its service to the public. Similarly the Committee is entrusted with the responsibility for keeping

as simple as A·B·C



These components for the completely enclosed pipe-line type FerroFilter shows its simplicity of design. Simplified design, careful workmanship, and the finest materials are combined in an extremely effective electromagnetic separator that will give you long, trouble-free service.

To get the clean sparkling enamel finishes you want for your finished product, you *must* have clean, iron free enamel slips. Thousands of feet of magnetized edges of the FerroFilter grids form a protective wall against iron contamination.

The pipe-line FerroFilter will fit into your dip tank circulating system, and your mill unloading or liquid transfer systems to give you the protection you need. Gravity type FerroFilters are available for general use where a closed system is not required.

No modern enameling plant can afford to operate without adequate FerroFilter protection. They represent the lowest cost finish insurance you can buy.

For detailed information send for bulletin #54

Authorized Representatives for the Enameling Industry

Chicago Vitreous Enamel Product Co., 1425 So. 55th Court, Cicero 50, Ill.
Ferro Enamel Corporation, 4150 East 56th Street, Cleveland 5, Ohio

S. G. FRANTZ CO., Inc.

Dept. F P.O. Box 1138
Trenton 6, New Jersey

the appropriate Washington agencies informed on the nature and the extent of this industry and the importance of its products in the national economy.

Public relations and publicity

The year of 1950 marks the twentieth consecutive year of public relations and publicity services for the industry good, conducted by the same consultant through the entire period. The industry's three products are publicized in specialized service to women's magazines, newspapers and radio stations. Other service is rendered to the trade, business and financial press. One of the first projects undertaken was the promotion of planned home laundry rooms, as a means for bringing old laundry equipment into the light and thus hastening its retirement. Making washers eligible under the terms of the FHA was a public relations agency accomplishment after efforts through various other channels had failed.

Through the Association's public relations and publicity representative there is harmonious cooperation with the Edison Electric Institute, the American Gas Association, the National Adequate Wiring Bureau and the National Farm Electrification Bureau. The Association thus is represented at the national conferences of these and such other organizations as the Ohio State Home Economists' Conference and the Association of Women Broadcasters.

The outstanding accomplishment on behalf of the Association has been the conducting of four National Home Laundry Conferences. These have brought together women's magazine editors, home economists, educators and representatives of national government for the discussion of laundry appliances, textiles, supplies and various subjects and problems incident to the whole home laundering process. The Conferences represent the practice of public relations at its best. Attendance is increasingly large. The fifth conference will be held in New York City on October 31, and November 1, 1951. The Association has been given an unique position through

finish SEPTEMBER • 1951

Penfield MONO-BED DEMINERALIZER

Cuts Deionization Costs

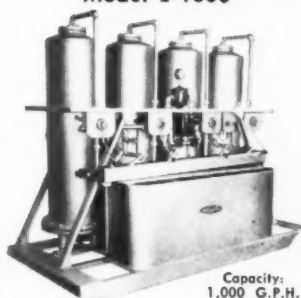
Cation and exceptionally strong anion base exchangers are intimately mixed in a single unit tank, thus providing in one container the equivalent to a large number of "multiple bed systems".

The raw water passes through the Penfield Mono-Bed Column only once, yet comes out with a mineral content of virtually zero (resistances have been reported as high as 20,000,000 ohms per centimeter).

Illustrated here is the Penfield Mono-Bed Demineralizer, Model No. M-1000, with a flow rate of 1,000 g.p.h. Required floor space for the complete unit is 5' x 2 1/2' x 7'.

Regeneration is accomplished by the simplest and most economical method known — gravity and displacement. No water pressure is required and there are a minimum of valves to operate.

Model L-1000



Capacity: 1,000 G.P.H.

Over the past ten years, Penfield has built more four column demineralizers than any other manufacturing concern. In comparison to distilled water costs, Penfield Industrial Demineralizers provide savings as high as 85% and in one reported instance cut costs 98%. No heat or steam power is ever required and units are ready for immediate operation on arrival at site. Send for "Penfield Pays" folio giving specifications of all Penfield Demineralizing units — single, double and four column.

AVAILABLE IN FLOW RATES FROM 200 TO 5,000 G.P.H. AND UP

The Penfield Mono-Bed Demineralizer operates upon the most efficient deionizing technique known . . . is ideal for a large variety of processing and other operations — including power plants, mirror plating, electronic tubes, photographic finishing, and wherever exceptionally high purity, mineral-free water is required.

Write today, describing your water treating needs.

PENFIELD

MANUFACTURING CO., INC.

19 High School Ave., Meriden, Conn.

FILTERS • SOFTENERS • DEGASIFIERS • DEMINERALIZERS

Penfield "Planned Purity" PAYS!

the holding of these conferences. It is no exaggeration to say that through the contacts maintained and the services rendered, the American Home Laundry Manufacturers Association today enjoys much better relations with these various fields than can be boasted by any other household appliance group.

Suppliers to the industry

The Associates Committee represents the suppliers to the industry

who are enrolled as Associate members of the Association. It was organized in 1945 to examine suppliers' facilities for resuming civilian production as quickly as possible at the first opportunity, and for promoting the best mutual interests of themselves and the washer, dryer and ironer manufacturers. The Committee continues to operate for the common good. It works for a better understanding of the industry's general problems, and seeks to bring about

their solution. It takes active leadership in the social side of the Association's activities. It bears a large share of the entertainment expense of the annual summer meeting.

Thus it can be seen that this industry association, through its officers and committees, recognizes clearly its responsibility for continuing as an active force for the good of every member.

Those who serve the Association interests realize that they have an assignment to work for the benefit of their comrades in the industry.

As Association endeavor achieves first one objective, then another, it can be seen that the net over-all result is to be more and better products for an increasing number of homes; products, in fact, which already are a major factor in the mode of daily living of many million American families.


Sanitation and product research aids industry progress

→ from Page 48

knowledge that a research project on bacteria, in connection with public laundries, was being conducted, probably has been instrumental in eliminating or forestalling many local ordinances and other legislation designed to affect the use of public laundries.

Radioactive isotopes simplify testing procedures

The committee feels that this work was done even more expeditiously than was originally anticipated and that the accuracy with which it has been done certainly is unquestionable. The seemingly fateful introduction of the marvelous new by-product of the atom bomb, *radioactive isotopes*, has made it possible to eliminate much of the controversial nature apparently always present with bacteriological studies and, of much greater importance, the use of these same radioactive isotopes seems to open a new medium for definitely, accurately and quickly determining the efficiency of the products in which our Association is interested. Much time and effort have



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Robertshaw Model F-1 is a single pole, double throw thermostat with six terminals. It is used to switch circuits from high to low heat where two heating elements are used.

When the thermostat calls for heat, high heat element automatically cuts in and holds until set temperature is reached. On reaching set temperature, main contacts are automatically broken, and low, or holding temperature element is cut in to function until drop in temperature again calls for heat.

May be used to operate fans in air ducts or agitators in tanks, etc., where such operations in combination with heaters are required. Write for Catalog F-1.

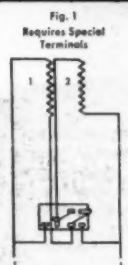
Wiring diagrams shown do not constitute a warranty against patent infringement arising from use of circuit shown.



In Home and Industry, EVERYTHING'S UNDER CONTROL

Robertshaw

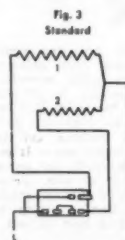
THERMOSTAT DIVISION
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Wiring Diagram for Two Independent Heater Elements. (With Rise in Temp. Circuit Changes from Parallel to Series.)



Wiring Diagram for Two Heater Elements, With Common Lead. (With Rise in Temperature, Circuit Changes from Parallel to Series.)



Wiring Diagram for Two Circuit Connection. With Rise in Temp. Circuit Operates from 2 on to 1 Off, or 2 Off to 1 On.

been spent by its engineering committee for the last several years trying to determine a method of evaluating the efficiency of rinsing. The procedures have been too long, tedious and unreliable. It is the belief of the National Sanitation Foundation and of our committee that, through the use of radioactive materials, the washability, rinsability and bacteria content of our products can be determined almost instantly by the use of this new tool. Its possibilities seem unlimited as applied to home laundry equipment.

The work continues at Ann Arbor. The Foundation's findings are conclusive and reassuring. They are being used by the members of our industry for the betterment of the washing process. They are to the advantage of the public interest.

The study, inaugurated in the spring of 1943, will have the end result of reassuring and stimulating the great coin-meter laundry business with its foundations in our Association's production of washers, dryers and ironers. The work of the National Sanitation Foundation is one of the most important and significant in the whole history of all industry's relationship with its public.

An industry educational program gains headway

→ from Page 48

mutual importance which had come up in their work. These informal sessions were followed by a conference at the New York Herald Tribune Home Institute in April, 1948, when Miss Eloise Davison was head of the Institute.

At that time participants began to feel that the cooperation of others in the home laundering field would be helpful. In a session with Miss Davison and Miss Elizabeth Sweeney (Herbert), head of the appliance section of McCall's, the assistance of the American Home Laundry Manufacturers' Association was offered in formulating succeeding Conference programs and obtaining the participation of interested authorities. The Association became the sponsor of the Conferences, and the second was

held in Chicago in January, 1949. Later Conferences were held in New York City in the fall of 1949 and in Chicago in January, 1950.

In these Conferences we keep in mind that everyone attending is an individual looking for a solution of her particular problems in service to the homemaker, present or prospective, as well as seeking latest information on our industry's three products and the favored techniques for their use.

Channels for informing the home maker

Our purpose is the proper informing of the consumer, the homemaker. We recognize that she is reached through various channels, including the women's magazine editors, home economists of colleges, universities and the utilities, extension leaders down through high schools, home demonstration agents, home economists in Washington, state REA home economists and women similarly em-

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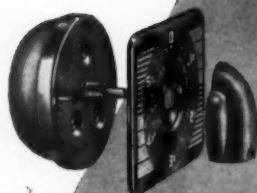
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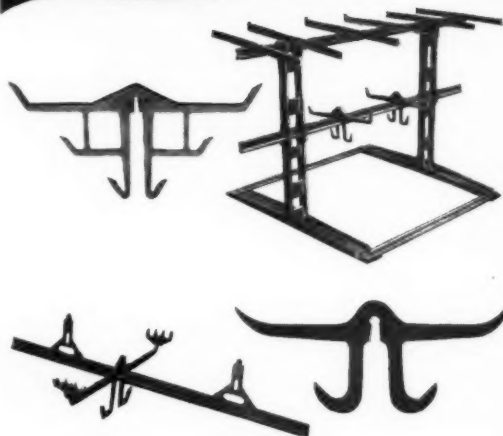
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18 NEW MEMBERS JOIN PORCELAIN

ENAMEL INSTITUTE DURING 1951

The membership role of the Porcelain Enamel Institute has been increased by 18 since the beginning of this year, reports D. H. Malcom, chairman, PEI Development Committee.

New memberships include: Challenge Stamping & Porcelain Co., Grand Haven, Michigan; Cherokee Porcelain Enamel Corp., Knoxville, Tennessee; De Ijsel Enamelworks, Ltd., Dieren, Holland; Dwyer Products Corp., Michigan City, Indiana; Emaileries du Loiret, Loiret, France; Enamel Products Co., Cleveland, Ohio.

Estate Stove Company, Division, Noma Electric Corp., Hamilton, Ohio; Houston Porcelain Enameling Co., Houston, Texas; Jones Metal Products Co., West Lafayette, Ohio; N. V. Emaile-En Metaalwarenfabrieken, Amsterdam, The Netherlands; New Process D-Enameling Corp., Aurora, Illinois; Rutenber Electric Co., Marion, Indiana.

Shepherd Chemical Company, Cincinnati, Ohio; Smoot-Holman Company, Inglewood, California, Tappan Stove Company, Mansfield, Ohio; Toledo Porcelain Enamel Products Co., Toledo, Ohio; Tremco Manufacturing Co., Cleveland, Ohio; and The Willard Manufacturing Co., Miamisburg, Ohio.

played by distributors, engaged in vocational education; in short, the whole field of home consumer information.

Study of the attendance records of the Third and Fourth Conferences, the latter attended by 250 persons, shows that the participants included, in addition to women from the fields already named, representatives of the fields of advertising and public relations, the press, independent engineers and research agents, and men and women from the fabric fields, each with a special direct interest in the Conference.

With attendance possessing such variety, it might be inferred that it would be difficult to arrange a program with sufficient appeal to make it worthwhile for each to attend. On the contrary, many subjects are common to the interest of all. Actually, in program formulation the difficulty lies in selecting from a plentitude of subjects.

Our earlier conferences have been largely in the hands of our many

good friends in the women's magazine field. After the Fourth, it was agreed in the industry that these editors were entitled to a well-earned rest so, although they were consulted at considerable length in our planning for the coming Fifth Conference in New York City, the preparations and the execution of the program now are vested in our Conference Committee, drawn from the members of the industry.

Conference organizer to serve again

Eloise Davison, now an independent consultant in the home economics field, is an active liaison agent in the enlisting of the program participants. It is interesting to note that Miss Elizabeth Sweeney, McCall's, who, with Miss Davison served as the organizers of the early conferences, has accepted our invitation to serve as the summarizer of the Fifth Conference proceedings, making her appearance at the end of the final session.

This year, for the first time, our

Association has a Home Economist's Committee, membership consisting automatically of the chief home economist of each of our organization's member companies. Heading these is Mrs. Julia Kiene, head of the household economics department of Westinghouse Electric Company. The industry's home economists are active in the work of planning the Conference. They have full representation on our special Conference Committee.

Our Association officers and the industry members in general can well take off their hats to the home economists of our group. Their services have been invaluable in giving the Conference point and direction. At their suggestion, invitations to the conference have been sent to key home economists throughout the United States, not simply in the states contiguous to New York.

It is felt that some of these leaders may find it possible to include the Conference in their Fall travel plans, in spite of the remoteness of New

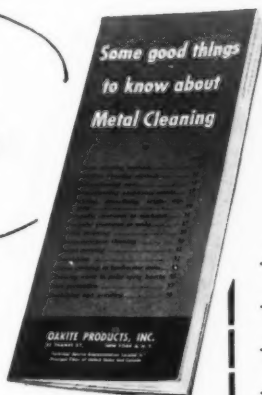
WHAT METALS DO YOU CLEAN?

Which soils are hardest to remove?

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|--|---|
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| <input type="checkbox"/> pigmented drawing compounds | <input type="checkbox"/> flux residues |
| <input type="checkbox"/> heat scale | <input type="checkbox"/> rust preventives |
| <input type="checkbox"/> tarnish | |
| <input type="checkbox"/> rust, oxides | |

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York City from their own particular activity fields. It also is believed that nationwide promotion of the event to a selected group will have good cumulative effect as we arrange for larger conferences in succeeding years.

Top management throughout our Association, as well as sales and advertising executives and the engineers of the industry are an element which will be largely represented at the conference.

Open forum presentation

The open forum style of presenting and discussing subjects is highly instrumental in bringing into the open the problems and controversial subjects involved in the home washing technique. Agency men discover advertising themes. Sales executives discover new promotion angles. Engineers get, first-hand, the opinion of home economists fresh from the homemaking field.

The Association, of course, finds in these Conferences the opportunity to lay its case before authorities whose opinion is sought by millions of

homemakers. It is keenly aware of the benefits it derives from the interchange of ideas which is inherent in each Conference. Audience participation in long question-and-answer periods reveals an intense continuing interest in all phases of home laundering as they involve the use of the household washer, dryer and ironer.

Water, fabrics, sanitation research

In the forthcoming Fifth National Home Laundry Conference, at least three subjects will be featured for the first time. One, strangely enough, is "Water." Water is a "must" in any kind of washing, of course, and yet it never has been discussed in the Association's conferences excepting as to its softness and hardness.

Washing, however, can be affected by many more water factors than the relative softness or hardness of the water. The presence in it of iron, copper and one or more of dozens of other minerals plays a direct part in the success of washing. An authority in the field of public water plant design will discuss var-

ious of these deterrents. Others will tell of the effects caused by them in the use of the washer, dryer and ironer, and of the influence, as well, of the so-called "cosmetics" of the home laundering process, bleaches, starches, bluing and so on.

The fast-multiplying array of new fabrics and fibers will be given full attention in another section of the program. The industry, recognizing that a vast array of new washing instructions confronts consumers, plans to meet the issue head-on, contending that many of the products, on test among our manufacturers, can be washed, dried and ironed perfectly satisfactorily with our appliances.

The research work on automatic washers as used in public coin-meter laundries which is being conducted by the National Sanitation Foundation at the University of Michigan under the sponsorship of the American Home Laundry Manufacturers' Association will be a third feature.

The controversial subject of Soaps and Detergents will furnish ground for earnest debate as still another program feature.

Panels representing the Association's four products, Conventional Washers, Automatic Washers, Dryers and Ironers, will report on development work in their sections of the industry and the place of each appliance in the complete home laundry picture.

The steadily increasing interest shown in these Conferences, as revealed by the larger attendance at them and the interim requests for the reports of the various discussions which have reached almost the stature of textbooks among many home economists, is looked upon by our industry as the best sort of proof that we made a constructive move when we assumed the planning of these national events. The Association is glad to support the Conferences, for the benefits the members receive, as well as the benefits the country's home economists in our field derive from them.

Already we are receiving inquiries about the Sixth Conference, scheduled for Chicago in the Fall of 1952.



Prize-winning packages feature
Kimpak Float Packaging!



September • 1951

First Prize Wooden Box Package
 Harrison Adding Machine Company,
 Detroit, Mich.

It's no strange coincidence that many winners in the 1950 Industrial Packaging & Materials Handling competition used KIMPAK, creped wadding at one point or another. One of the reasons for this is true—the extreme versatility of KIMPAK is demonstrated by four of the winners shown here. However, the reasons are many who are...

KIMPAK saves you money in the shipping "room"—saves you customer who are ordinarily annoyed by the loss of efficiency of loose fill wadding. Truly, KIMPAK creped wadding is a truly great protection to your packages at lowest cost.

Safe transit

FROM ASSEMBLY LINE TO FINAL CUSTOMER

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Try KIMPAK soon—for any of the Four Basic Methods of Interior Packaging—Bracing and Blocking, Flotation, Surface Protection, Absorbent Packaging. For further information, see your nearest KIMPAK distributor listed in classified telephone directories under “Packing Materials” or “Packing Materials—Shipping”; or write to:

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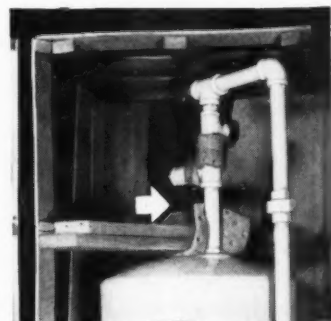
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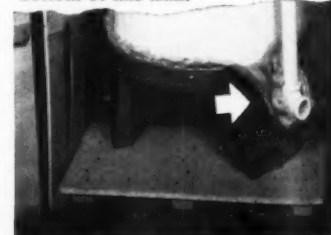
Shur Oil Changer and Flusher, manufactured by Grieve-Hendry Company, Chicago, Ill. Wire-bound crate by Rathborne, Hair & Ridgeway Box Co.



Surgical Bed Pan Sterilizer, manufactured by Ohio Chemical & Surgical Company, Madison Wis. Wire-bound crate by General Box Co.



Thick KIMPAK pads are used at top and bottom of this tank.



Water Softening Tank, manufactured by Culligan-Zeolite Co., Northbrook, Ill. Wire-bound crate by General Box Co.

safe transit

A monthly trade publication section devoted to improved packaging and shipping and materials handling practices in the home appliance and allied metal products field.

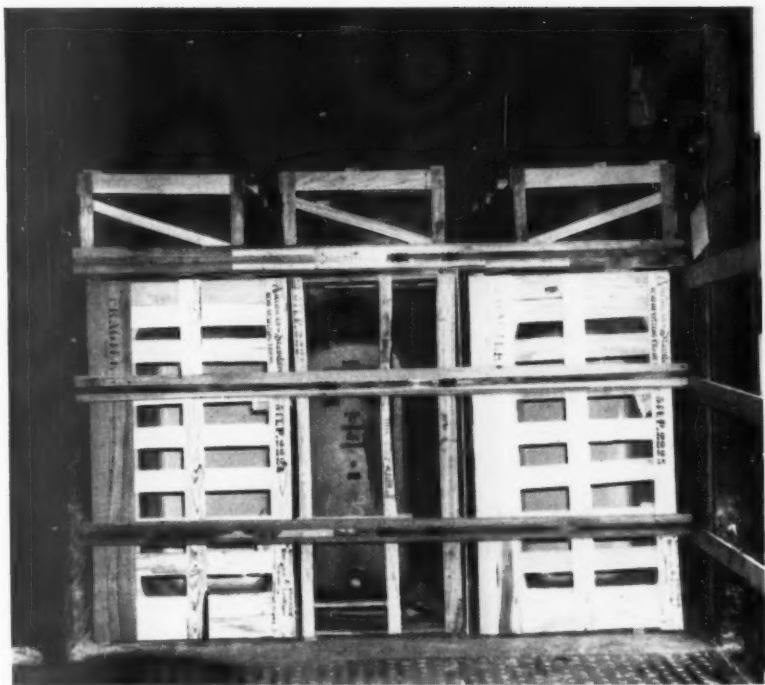
Plant experience information for all executives and plant men interested in the problem of packaging and shipping improvement and loss prevention.

Complete information on the National Safe Transit pre-shipment testing program for packaged finished products, and detailed progress reports of divisions and sub-committees of the National Safe Transit Committee.

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For safe shipment of bathtubs—improved bracing and steel strapping are employed by American Radiator & Standard Sanitary Corp. A complete story on handling, packing and shipping American-Standard plumbing fixtures and heating equipment will appear in the October issue.

Vibration test on packaged furnace—being conducted at American Gas Association Pacific Coast Laboratories, Los Angeles. Left to right, W. H. Vogan and Pieter Root, Jr., of Laboratories, and E. M. Brickey, of Fraser & Johnston, heating equipment manufacturer (story on Page 92).





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Light in weight, the Watkins Container is quickly and easily assembled to completely enclose your finished product, saving labor . . . saving time . . . saving expense. The container arrives at your plant 75% assembled.

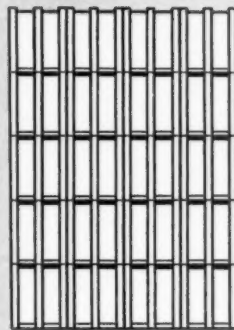
Scientific design affords strength out of proportion to container weight: strength to carry your product safely . . . strength for stacking to any practical height . . . strength to resist weaving and shock without distortion.

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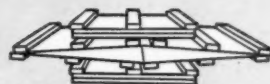
Add to these advantages the "Traveling Billboard" feature (advertising can be printed in two colors on four sides) and you will see why more and more appliances and other valuable finished products are being shipped the "Watkins way".

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STACKING Vertical wood cleats provide exceptional supporting strength to carry heavy loads. Typical unit supports 4 tons.



STORING Containers are delivered flat (only 3 sections) and closely nested to conserve storage space.



QUICK Assembly line packing is speeded up. Easy to handle. Complete protection for your product.

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COZIER CONTAINER CORP., 446 East 131st Street, Cleveland, Ohio
CRATE-RITE MFG. CORP., Division of Pacific Ports Ind. Inc., 10901 Russet Street, Oakland, California
DURA-CRATES, INC., 940 East Michigan Street, Indianapolis, Indiana
GENERAL BOX CO., 500 N. Dearborn St., Chicago, Illinois, and 16th and Maple Sts., Louisville, Kentucky
HEMB & MARTIN MFG. CO., Watseka, Illinois
ILLINOIS BOX & CRATE CO., 811 Center Street, Plainfield, Illinois
KIECKHEFER BOX & LUMBER CO., 1715 West Canal Street, Milwaukee, Wisconsin
LANE CONTAINER CORP., 10212 Denton Road, Dallas, Texas
LEWISBURG CONTAINER CO., 243 Singer Street, Lewisburg, Ohio
LOVE MFG., INC., 608 South Commerce Street, Wichita, Kansas

—an inquiry to any of these companies will get prompt attention—



The • WATKINS CONTAINER • Manufacturer

Some practical effects of the Safe Transit program

by *A. L. Green* • SPECIAL REPRESENTATIVE, FREIGHT CLAIM DIVISION, ASSOCIATION
OF AMERICAN RAILROADS, CHICAGO, ILLINOIS

LAST year's achievement of the Protective Section in effecting a reduction of 33 per cent in the total amount of claims paid by the railroads of the United States and Canada for freight lost or stolen in transit probably was unexcelled by any previous performance. Such a great improvement in safeguarding freight against loss, despite largely increased commodity values, was all the more creditable.

We would not have been able to draw dependable conclusions from the statement of loss and damage claims paid on National Safe Transit products on carload shipments, for the reason that this statement, as to each product listed, shows wide ranges in the number of cars shipped.

Nor do we know how the prices of these articles changed during the three-year period covered. Where these conditions exist, the time lag between the movement of the shipment and the payment of the claim distorts the payment total in each year, which makes it impossible to show what the damage amounted to on the number of cars originated in each year.

NST used in employee training

However that may be, we are by no means wholly dependent upon the carload figures for our confidence and faith in the National Safe Transit Program to ferret out the causes of damage and get them corrected, before shipment, so far as the factory

end is concerned. We are using this program right along in employee training procedures to impress upon all of our men that all articles coming within the scope of this program—and cars containing them—must have extra careful handling.

Through thorough investigations of the causes of damage made at destination points by Clark Hutchison, our engineer, we know definitely that the use of the test apparatus has been very effective in avoiding recurrences where something was found to be wrong with the design of the article, its packaging or loading. It has been Mr. Hutchison's practice, where he investigates serious damage in the field, to go at once to the factory to offer his assistance in running down

SAFE TRANSIT PROGRAM MAY BE EXPANDED

Consideration is now being given to the possible expansion of the National Safe Transit Program, which was initially established to serve the home appliance and allied metal products industry. The present program, as initiated by *Finish* magazine and coordinated by the Porcelain Enamel Institute, with headquarters in Washington, D. C., has now certified 33 of the leading producers of appliances and other metal products under the pre-shipment testing plan as established by the National Safe Transit Committee.

While the Safe Transit Program has been growing in this field, many, many inquiries have been received by the Safe Transit headquarters from producers of a wide variety of products not included in the original plan. For example, these include manufacturers of television sets, furniture, glassware and glass products, chinaware, office equipment (typewriters, etc.), automobile batteries, and a wide variety of products from practically every manufacturing field where the problems of packaging and shipping, and claims and losses, are common with all.

The National Safe Transit Committee now has under study a plan for expanding the activities of this now nationally recognized group, to include many of the other products urgently in need of this service.

It should be explained that the NST plan for pre-shipment testing has always been open to anyone interested. When headquarters in Washington receives a request for information, complete data on the pre-shipment testing plan and all equipment required, with information as to its operation, is forwarded immediately to the inquiring company. The company, or organization or association, as the case may be, has always been free to use the test procedures and information furnished, but to date it has not been possible for the Committee to certify them under the plan or to allow them to use the Safe Transit Label.

The plan under consideration at the present time would remove these restrictions and make it possible to certify companies in other lines of business, and to permit them, after proper certification, to use the now popular National Safe Transit Label. *Finish* will report any later developments on this plan.

the trouble and getting it corrected.

The LCL picture

With respect to the large reductions made in claim payments on the articles listed in the statement covering less-car-load shipping, we are not so handicapped as we are with the car-

load figures although it is true we do not know the volume of L. C. L. shipping nor the dates when the claims were paid; but it can be fairly assumed that the payment followed the movement at an average of, say, six months later.

The payment for stoves was more

than cut in half in 1950 compared with 1949, and plumbers' goods came down 43 per cent, and for the claims under the heading "enamelware, washing machines, etc." (which includes a miscellany — cooking utensils also) the reduction was 22.4 per cent. The only item that resisted this trend was refrigerators and we mean to find out why we are not making greater progress in improving the handling of refrigerators moving L.C.L. There must be something about our handling of this item that is not what it should be.

Effect of the Safe Transit Label

I think, for one thing, the Safe Transit Label on these packages has had a good deal to do with better handling; and the factory testing of the packaged product also has been quite a factor in giving us packages that will better stand the gaff of man-handling. We plan to present the N.S.T. car placard in the form of a poster, with suitable wording, and ask all railroads to tack it up on switch shanties, bulletin boards, etc., where it will be seen by yard masters, engine men, switchmen, and others concerned with switching in yards and terminals; and, we trust, impress them with the need for extra care in the switching of all cars bearing this placard.

The Safe Transit package label will also be blown up in size on the poster, which will be placed on bulletin boards and other conspicuous places in freight houses to promote greater respect for this Label.

Use of power equipment spreading

There are several explanations for the reductions made in L.C.L. claims. One, I think, is the fact that the railroads throughout the country have been fast equipping their freight stations with power equipment. This means fewer handlings of individual packages, less chance that such packages will be dropped even a few inches; the packages are more often taken directly from the truck to the stowage position in the car; and all in all, it has been our experience that they get less shock and more careful handling when mechanically handled than when handled on two-wheel hand trucks.

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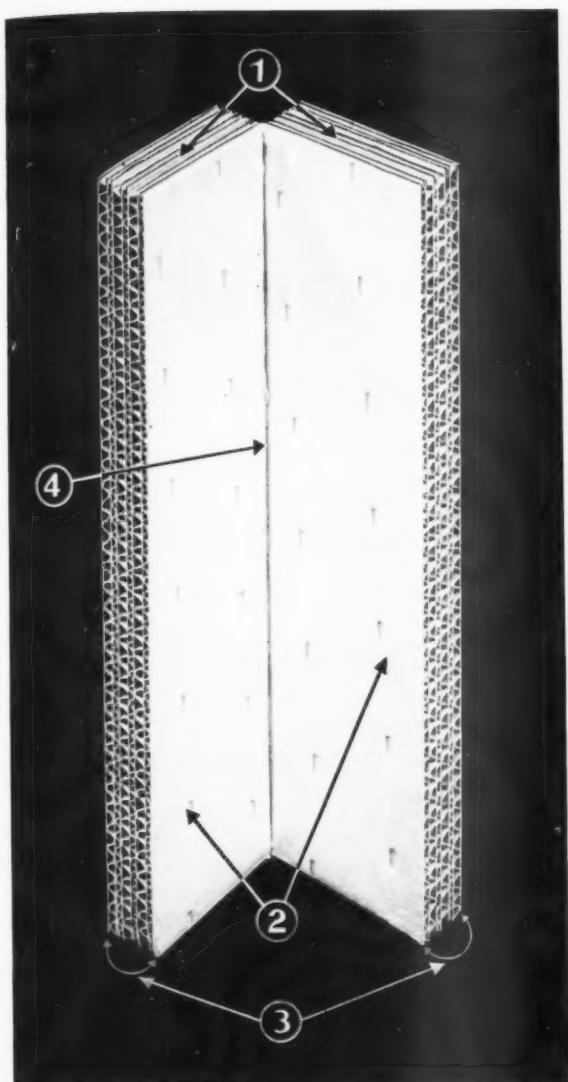
AAR POSTER BACKS SAFE TRANSIT PROGRAM

On September 1, some 24,000 two-color posters produced and distributed by the Freight Claim Division of the Association of American Railroads will tell the story of Safe Transit Labels and Safe Transit Car Placards to all freight handlers, including the train service employees, throughout the

United States, Canada and Mexico.

This is part of an educational program by AAR to explain the purpose and plan of the National Safe Transit Program to all supervisory operating personnel. Bulletins have already explained the program during recent months.





- ① Shock Absorbing Outer Pad
- ② Non-abrasive Kimpak† Facing
- ③ All in One Unit for Easy Application
- ④ Fits Snugly Around Corners
- ⑤ Ships Flat

*** pillowpak**
TRADE MARK

*Non-abrasive interior packing

†Trade Mark Reg. U.S. Pat. Off.

MENASHA WOODEN WARE CORPORATION
Menasha, Wisconsin • Founded 1849

Manufacturers of Corrugated Containers and Interior Packing Specialties

protect corners with **pillowpak*** TRADE MARK

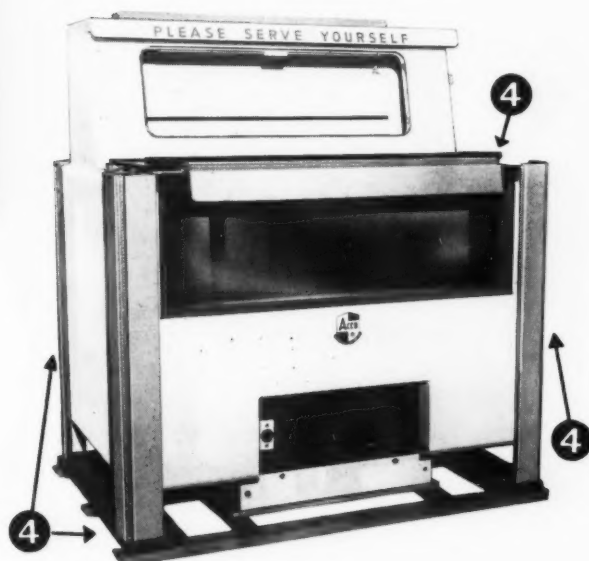
pillowpak protects the corner *and* the finish

Slit-scored to give automatic hinge-action, Pillowpak corner pads hug right-angle surfaces softly and snugly.

This same hinge-action also permits corner pads to be shipped to you in the flat, which pays you a dividend not only in freight saving but also in simplified materials handling.

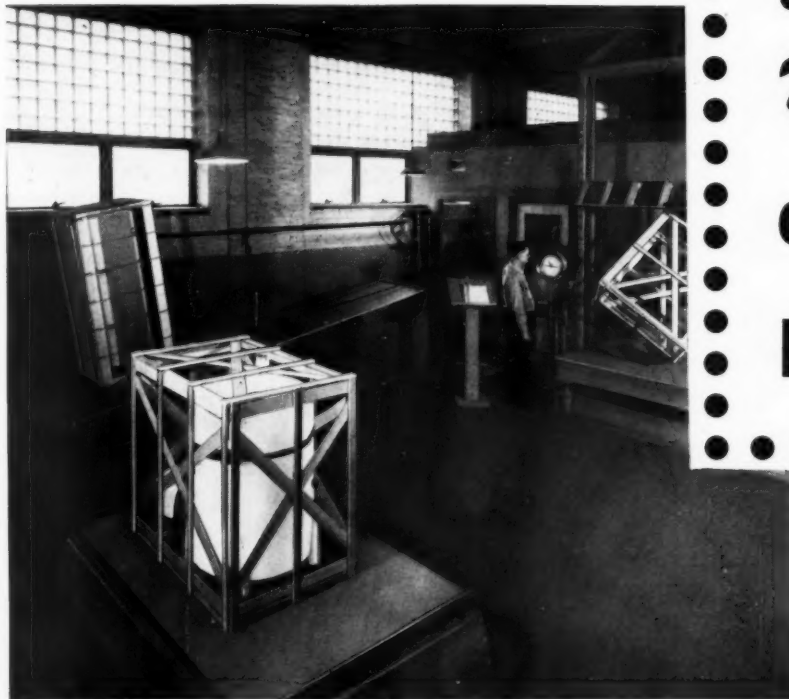
pillowpak handles your product with kid gloves

The thick outer corrugated pad absorbs all shocks, the inner Kimpak† facing protects the surface and—it's all in one solidly laminated unit.



The ACCO frozen food display cabinet manufactured by Manitowoc Equipment Co., Manitowoc, Wis.

● Section of the Chicago Mill and Lumber Company Testing Laboratory. This Laboratory is certified by the National Safe Transit Committee.



**A proving
ground for
Your
crated
product!**

SENDING your crated product through the Chicago Mill and Lumber Company Laboratory is like taking out an insurance policy for safe delivery.

Experienced engineers and crate designers use the latest in testing equipment to search for weaknesses that may result in transit damage to your valuable finished products.

Assurance of safe arrival will result from pre-shipment testing in our certified laboratory. Avail yourself of this service.

Chicago Mill has the most diversified line of boxes and crates in the country. The most adaptable and economical will always be recommended.

CHICAGO MILL AND LUMBER COMPANY

33 South Clark Street

Chicago 3, Illinois

Plants at: Helena, Arkansas • Greenville, Mississippi • Rockmart, Georgia
Tallulah, Louisiana • South Fork, Colorado • Chicago, Illinois

The home laundry industry ties in with Safe Transit

an American Home Laundry Manufacturers' Association sub-committee
chairman comments on association activity and Safe Transit testing

by James Muirhead • EASY WASHING MACHINE CO., SYRACUSE, NEW YORK

LET'S outline briefly the activities of the Packaging Sub-Committee of the AHLMA Traffic Committee, and tie in the relationship of this sub-committee with the National Safe Transit Program.

As most of you, no doubt, know, *finish* magazine conceived the National Safe Transit Program which is now coordinated and sponsored by the Porcelain Enamel Institute. The committee was formed to make a thorough study of the problem of damaged appliances during shipment. The committee felt that the most effective way of reducing this damage was to set up tests through which packaged products should pass, and which would determine if an article is properly packaged before said article is turned over to the carriers for shipment. Such tests also would aid in proving the design of the article itself.

Briefly, the objective of the National Safe Transit Committee is to enlist the cooperation of organizations, such as the American Home Laundry Manufacturers' Association, representing manufacturers and users of finished metal products.

During the past two and one-half years, I have been active as chairman of a sub-committee of the National Committee assigned to the study of inter-plant movements of porcelain enamel components and sub-assemblies. The experience gained in this project has been most helpful to me in serving on the AHLMA Packaging Sub-Committee under the able chairmanship of Harry Benzie, of General Electric Company.

Investigations during the course of these two and one-half years have convinced me thoroughly that pre-shipment testing of packaged products, whether complete assemblies or components, is most important and can prevent a great deal of lost motion, product failure, and transit damage. I have observed the truth of this in many tests which I have witnessed in laboratories, shipping and receiving docks throughout the east and middle west.

Pre-shipment testing shows the weaknesses

We, at Easy, have tested many types and designs of packages for our Spindriers and for parts shipped as service replacements. Pre-shipment testing showed us the weaknesses of some of these containers, and eliminated the necessity of making so-called test shipments of questionable designs with consequent damage to a great number of machines. It helped us to select, from the many types of containers submitted, those that could be subjected to a shipping test with reasonable assurance of safe arrival of the Spindrier.

It is true that during testing we did some damage to a few machines, but nothing like what would have happened if we had made, let's say, a carload shipment to test the efficiency of the proposed design container. The savings made in packaging costs, better containers and customer satisfaction justified the relatively small expense of repairing the units. This has been true wherever a company has adopted this program. Such

companies as Westinghouse, Roper, General Electric, Hotpoint, and many others have shown increased safety in transportation as well as savings in packaging costs by the use of pre-shipment testing.

Packaging—the stepchild

Packaging is the stepchild in the product cost family anyway. After the costs on a new product have been figured and the product ready to be released for production, someone wakes up and asks: "How about the shipping container?" "Oh, put in about a dollar", and when the figures are received from a container manufacturer everybody is surprised that the package is so expensive. Usually, no one knows whether the crate, box or carton submitted is over-designed or under-designed. There is no necessity for such slaphappy, careless methods in the selection of the proper package.

Pre-shipment testing by methods outlined by the Safe Transit Committee can prevent headaches and tends to keep the container supplier on his toes when he is aware that his customer wants facts and not guesswork in the design of the package. *Poor packaging can nullify the best efforts of your advertising and sales departments*, when a dealer or a user continually receives your goods in an unsalable or unusable condition.

I have figures available showing savings of approximately 10% on the cost of a container entirely due to pre-shipment testing of a redesign brought about by a laboratory test

of the current container showing that this current container was over-designed somewhat.

Pre-shipment testing of the container for a new product can often bring out product weak points. For instance, such testing has frequently shown that it is entirely possible to add a small amount to the cost of the product and take twice or three times this amount from the cost of the container. In other words, such a program can be of great assistance to the Product Design Department by helping the design engineer in a proper "design for packaging." This is important, as many have discov-

ered too late, that a new product could have been slightly modified and a much less expensive package could have been used.

The carriers, and this includes all forms of freight transportation, are very vitally interested in the National Safe Transit Program and are cooperating fully in furthering the aims of the Committee. Representatives of the Association of American Railroads, American Trucking Associations, Inc. and Air Cargo, Inc. are active on the various committees under the NST Program.

It stands to reason that any company operating under the procedures

set up by the National Safe Transit Committee would enjoy excellent relations with the carriers when any controversy concerning damage or claims for such damage arises. This is not meant that claims will be paid automatically because you happen to use an approved package, because of the fact that the package may not be properly assembled or properly closed. However, an approved package, properly packed and properly closed, will certainly go far toward easing the task of your claims clerks and giving your packaged product the respect of the handlers, truckmen, etc., during transit.

AGA LABORATORIES BRANCH CONDUCTING SAFE TRANSIT TESTS FOR WEST COAST MFRS.

IN April of this year, the American Gas Association Laboratories, Pacific Coast Branch, received certification establishing them as a Certified Safe Transit Laboratory by the National Safe Transit Committee of Washington, D. C. This recognition enables the Laboratories to perform

tests on packaged products for West Coast manufacturers.

During the past year, much interest has been created in the National Safe Transit Program among manufacturers of approved gas appliances and listed accessories through discussion at meetings of the Manufac-

turers Section of the Pacific Coast Gas Association. This interest resulted in the Manufacturers Section obtaining the necessary test equipment for installation at the Pacific Coast Branch of the American Gas Association Laboratories, in Los Angeles.

This installation is the only one of its kind west of Chicago, thus marking another "first" and certainly a very progressive forward step by Pacific Coast gas appliance manufacturers. The members of the Manufacturers Section feel that there is a growing need for such tests to minimize damage in transit.

The equipment installed includes a Package Tester (vibration test), Conbur Incline Testing Device (impact test), Acme Drop Tester (for packages under 100 pounds in weight), and a Ride Recorder (for instrumentation). The installation of this equipment enables manufacturers in the West Coast area to have their crated appliances, packaged parts, and packaged accessories tested for compliance with established test procedures, leading to certification by the National Safe Transit Committee.

Manufacturers of gas appliances and accessories now have an opportunity to participate in the National Safe Transit Program. Their packaged products may be certified as meeting the pre-shipment testing standards of this national organization. Crated appliances are currently being tested.

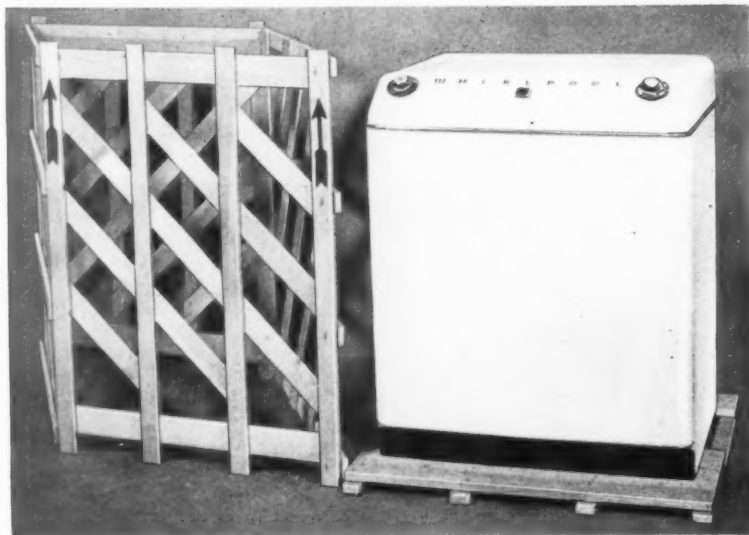
Pieter Root, Jr., of AGA Pacific Coast Laboratories, and E. M. Brickley, of Fraser & Johnston Co., San Francisco, examine a ride recorder mounted on a crated furnace which has just been subjected to a Conbur impact test.



WASHING MACHINE CRATES THAT CARRY PRODUCTS...

Safely

TIGHT CORNER HINGED CRATES



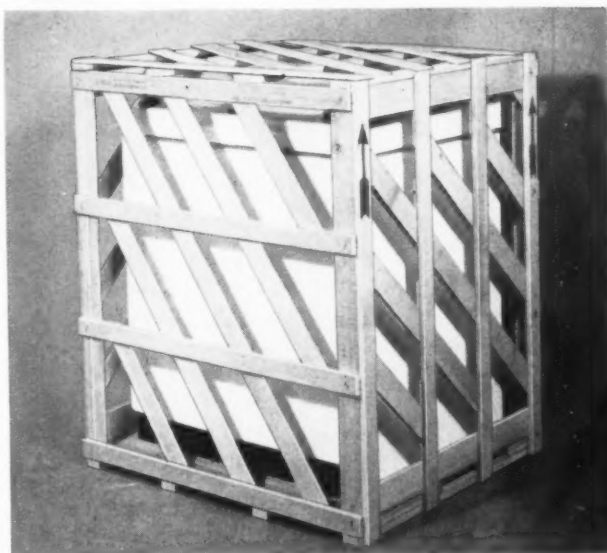
Above: The "Tight Corner" Hinged Crate for a Whirlpool automatic washing machine. Below: The crated product, ready for safe shipment.

Manufacturers of washing machines, ironers and dryers find that the Bigelow-Garvey "Tight Corner" Hinged Crate affords assured protection for these valuable home laundry products, so important now when both materials and finished products are in short supply.

The bracing strength and rigidity of the exclusive corner design make it possible for this Hinged Crate to withstand shocks, stresses and abuse that would be disastrous for the ordinary type of collapsible crate.

For washing machines or any household appliance the "Tight Corner" design offers that important extra assurance of safe arrival at destination.

We offer a complete line of shipping crates—both open and closed—domestic and export—and our engineers will design a crate to meet each specific need.



Write us regarding your shipping problems.

BIGELOW-GARVEY LUMBER COMPANY

General Office and Laboratory

320 West Huron Street, Chicago 10, Ill.

MILLS: ARKANSAS GEORGIA WISCONSIN MINNESOTA ILLINOIS

Some practical effects of Safe Transit program

→ from Page 88

Freight handlers throughout the country have been warned that, no matter how refrigerators, stoves, heaters, washing machines and other appliances are handled they must under no circumstances be dropped but must be eased all the way to the floor.

I want to compliment Messrs. Dana Chase, Ralph Bisbee, Everett Shands,

Edward Mackasek, John Oliver and the others who have taken a prominent part in developing and promoting this program as I believe it has been of marked benefit to all concerned; and it will be the purpose of Mr. Hutchison and the writer to cooperate whole-heartedly and as actively as we can in getting the best possible results.

We are especially indebted to Editor Dana Chase for the wonderful publicity he has been giving this pro-

gram in every issue of "Finish". Perhaps this consistent and intelligently prepared publicity has been the best salesman for the program, and we trust it will be continued.

Now if there is anything that anyone connected with this program would like to have the railroads do to assure better service for these products, we would like to know what it is; and it will have the most careful consideration.

CORNELL WOOD PRODUCTS ANNOUNCES NAME CHANGE

Cornell Wood Products Co., and its Hummel and Downing Division, will henceforth be known as the Cornell Paperboard Products Co. The name change reportedly entails no change in ownership or personnel, but was made in order to more accurately describe the products which the firm manufactures.

Cornell operates plants at Cornell and Milwaukee, Wis., and at Arlington Heights, Ill.

PACKAGING COURSE AT NYU STARTS IN LATE SEPTEMBER

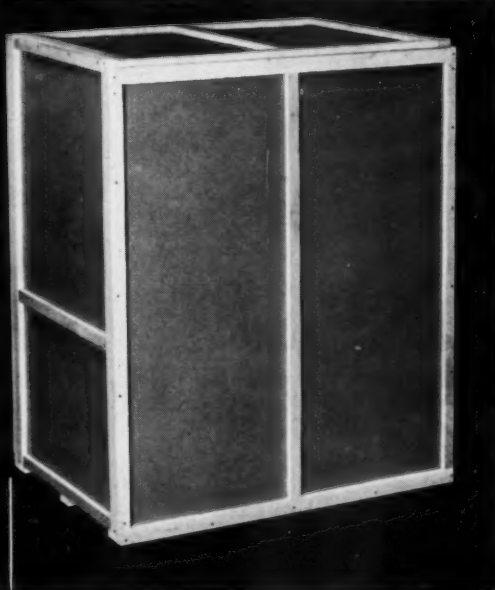
Laboratory testing of student designed packages will be featured in a new course to be offered this fall by New York University's Division of General Education, Paul A. McGhee, dean, has announced.

The course, "Packing and Packaging: Design Techniques and Cost Reduction Studies," is designed to emphasize student participation. Rigorous laboratory tests will be made on packages designed by members of the group, and students will be expected to participate in and contribute to solutions of a number of typical current packing problems.

Allyn C. Beardsell, vice president, and Alfred Hoffman, laboratory manager, both of Container Laboratories, Inc., will direct the course. Guest lecturers, including military personnel, will discuss the more specialized areas to be studied.

Developed for those with previous experience in the field, the course will include: analysis of test procedures, performance standards and laboratory testing; applications and limita-

Cleated
Fibre
Shipping
Cases



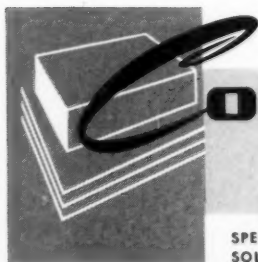
FOR
Commercial
Shipments

FOR
Government
Shipments

are safe, dirt-proof, strong — light in weight — comply fully with railroad and government requirements — present a clean, attractive exterior that lends itself well to advertising your product.

Cornell Cleated Fibre Cases are made at our Milwaukee Plant in many styles and sizes. We invite your inquiries for Cleated Corrugated or Cleated Solid Fibre Cases.

They comply with Government Specifications Jan-P-103 and NN-B-591.



CORNELL

PAPERBOARD PRODUCTS CO.

MILWAUKEE 1, WISCONSIN.

SPECIALTY PAPERBOARDS, FOLDING CARTONS, CORRUGATED BOXES, SOLID FIBRE BOXES, CLEATED FIBRE CASES, FIBRE WALL BOARDS

tions of production line packing techniques, and military packing.

A basic course in package design will also be conducted by the Division during the fall semester. Under the direction of Egmont Arens, design consultant and former president of

ANNOUNCE SHORT COURSES TO BE HELD DURING PACKAGING, MATERIALS HANDLING SHOW, OCT. 1-4

The program for the Packaging and Materials Handling Short Course, being sponsored by the Case Institute of Technology at Cleveland Public Auditorium, October 1-4, has been announced by Prof. W. A. Lynam, of the school's Mechanical Engineering Department. The Course is a part of the 6th annual Industrial Packaging and Materials Handling Exposition.

Registration is open to anyone, and may be made either for the entire course, or for specific daily sessions. Registration fees for the full course are \$20.00 for members of the Society of Industrial Packaging and Materials Handling Engineers, who conduct the program, or \$30.00 for non-members. Daily registration fees are \$7.50 for members and \$10.00 for non-members of the Society.

Short Course session titles, as listed by Prof. Lynam, are as follows:

October 1 — "Fundamentals of Packing, Packaging, Shipping", chairman, Earl B. Candell, General Electric Co., Lamp Division, Cleveland, Ohio; "Case Studies in Materials Handling Planning", chairman, Albert V. Blatz, A. O. Smith Corp., Milwaukee.

October 2 — "The Know How of Military Packaging", chairman, J. W. Kraus, Thompson Products, Inc., Cleveland; "The Integrated Packaging, Materials Handling, Sales and Distribution Story", chairman, C. W. Smith, McKinsey & Co., New York; "Packaging and Materials Handling Machinery Review", chairman, W. S. Wheeler, "Flow", Cleveland.

October 3 — "TAPPI and ASTM Specification Review", chairman, C. J. Zusi, Container Laboratories, Inc., Chicago; "Packaging and Materials Handling Cost Data Review", chairman, Prof. W. A. Lynam, Case Institute of Technology.

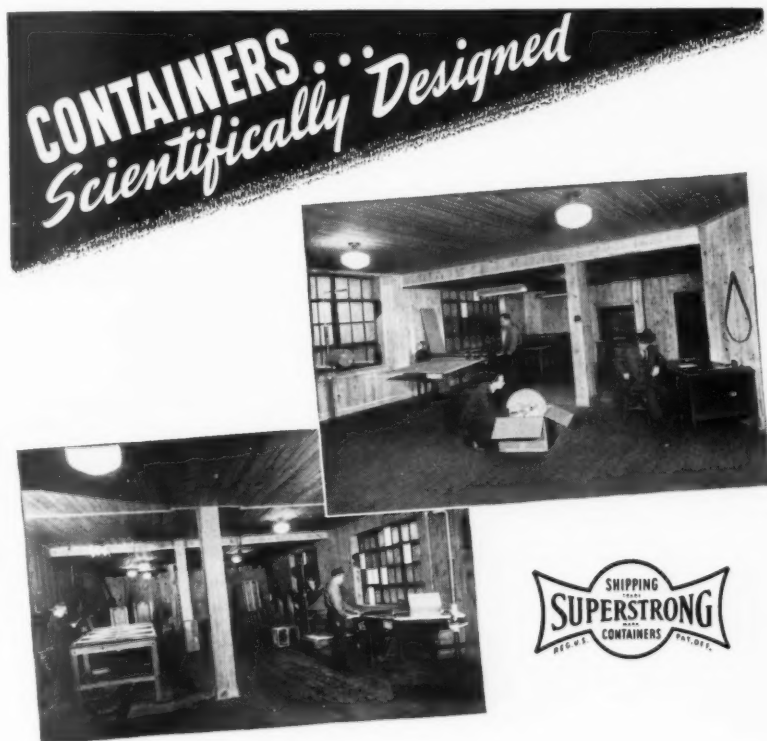
the Society of Industrial Designers, the group will discuss research, color dynamics, reproduction art and finish, industrial packaging, and package design as a tool for selling.

Both courses will meet for 15 weeks beginning late in September.

Blocking", chairman, Carl Sprague, Sherwin-Williams Co., Cleveland; "Problem Clinic", chairman, R. F. Weber, International Harvester Co., Chicago.

BRAINARD ADVANCES BYRNE

Brainard Steel Co., Warren, Ohio, has announced the appointment of Frank J. Byrne as assistant manager of sales for the steel strapping division of the company. Byrne was company sales representative in the Cleve-



All of our boxes and crates are specially designed for YOUR product—in order to give it maximum protection with economy of weight and space. There is no attempt to fit your product into "standard" sizes of shipping containers.

The SUPERSTRONG laboratory—certified by the National Safe Transit Committee—is for both design and testing. Here a competent staff of shipping engineers works with the most modern equipment in order that SUPERSTRONG containers may be properly developed and designed.

We shall be happy at any time to discuss your shipping needs, and to place our facilities at your disposal. There is no cost or obligation for this service.

RATHBORNE, HAIR and RIDGWAY BOX CO.
1440 WEST 21st PLACE • CHICAGO 8, ILLINOIS

land district. He previously was associated with Allegheny Steel Band Co., Cleveland Tractor Co., Cletrac-Wisconsin Sales Co., and Curtis 1000, Inc.

AMERICAN BOX AWARDED GOVERNMENT CONTRACTS

Government contracts amounting to \$365,000 have been placed with

The American Box Co., Cleveland, and its subsidiary, American Wood Products Corp., Marion, So. Carolina, according to Henry S. Kubes, vice president—manufacturing, and A. R. Caputo, sales manager.

Contracts are for wirebound and wood cleated fiberboard shipping containers to be used by several U. S. arsenals and the Chicago Quartermaster Depot.

YORK CORP., AMERICAN STOVE LORAIN DIVISION CERTIFIED BY SAFE TRANSIT COMMITTEE

York Corporation, York, Pennsylvania, and the Lorain Division of American Stove Company, Lorain, Ohio, have been certified by the National Safe Transit Committee, bringing

to 83 the total number of home appliance and allied metal products companies participating in the National Safe Transit Program.

JOINT MILITARY PACKAGING COURSE ESTABLISHED BY ARMY AT ROSSFORD ORDNANCE DEPOT

A Joint Military Packaging Course has been established by the Department of the Army at the Rossford Ordnance Depot, Toledo, Ohio.

The course is designed for Army, Navy, Air Force and Marine Corps personnel and certain personnel from industry at the foreman or supervisory level in the basic methods of military preservation, packaging, packing and marking.

The course is a continuing one, with classes of two weeks duration starting each week. Spaces have been reserved in each class for firms holding military contracts, with first priority given to prime or sub-contractors supplying equipment packed for overseas shipment.

Applications from firms interested in having representatives attend the course should be directed to the Officer-in-Charge, Joint Military Packaging Course, Rossford Ordnance Depot, Toledo, Ohio. Civilian firms must furnish at least one of their current military contract members and a brief description of the material or equipment being supplied under contract.

It was stated that training facilities at the Depot are adequate to handle the current military packaging training requirements. If training needs increase, establishment of additional courses at other locations will be considered. (For details leading to the development of the Rossford

packaging program, see "A New Approach to Training Packaging Personnel," Page 74, June 1951 finish.)

HEADS PROTECTIVE PACKAGING, MATERIALS HANDLING CONTEST

Alvin S. "Cy" Roberts, of Insurance Company of North America, is chairman of the 1951 National Protective



Protective Packaging and Materials Handling Competition which is being held in connection with the annual SIPMHE exposition to be held in Cleveland (see preceding page). Roberts is also a director of the Philadelphia Regional Division of SIPMHE.

The 1950 Competition drew nearly 200 entries in 7 classifications. This year, 35 leading packaging and materials handling men from all types of commerce and industry will judge the entries on the following factors:

Packaging — (1) Safety, that is, the degree of product protection afforded by the package; (2) Conformance to carrier requirements, compliance with various classification specifications governing the commodity and its packaging; (3) Ingenuity in the application of materials and methods; (4) Ease of handling — in assembling and packing operation — in intra-plant movement and warehousing of the completed unit — in shipping and loading — ease of unpacking; (5) Economy, that is, in connection with the use of materials, savings in weight or transportation charges, and prevention of loss and



New officers — of the Michigan Division of SIPMHE: Front row, l. to r., Darrell Buhlman, v.p.; Don Kelsey, pres.; Tom O'Neill, v.p. — Back row, Charles Cumiskey, sec.; Homer Mitchell, v.p.; Elmer Hamina, treasurer.

damage claims and complaints; (6) Practical utility from an over-all review.

Materials Handling — (1) Reduction of handling cost; (2) Economies in warehousing and utilization for storage space; (3) Increase of plant capacity; (4) reduction of inventory; (5) Improvement of product protection; (6) Reduction of handling hazards; (7) Improvement of working conditions; (8) Facilitation of materials control; (9) Speed-up of delivery of product to the consumer.

Contestants need not be members of the Society of Industrial Packaging and Materials Handling Engineers to enter the Competition, states Ray C. Sell, president of SIPMHE. For further information, write SIPMHE Contest Chairman, 20 W. Jackson Blvd., Chicago 4, Ill.

Evaluation of performance tests

To N.S.T. Committee:

I am very much obliged to you for your kind letter, and am looking forward to receiving the promised Safe Transit information kit.

I value your help all the more just because you *do* concentrate on performance tests and do not attempt to specify materials, etc. I feel that this is the best way in which progress in the invention and use of new packing materials and designs of packages can be made. I welcome the fundamental nature of your approach and hope that I shall be able to interest other officers of my Company in following your techniques of determining performance requirements and developing therefrom appropriate test standards.

Now we have in this county the Institute of Packaging, and I have mentioned your work to them. The gentlemen concerned are very interested and would welcome hearing from you . . .

Kenneth F. Moorey
Specialties Production Manager
May & Baker Limited
Dagenham, Essex
England



Improved Shipment Protection Can Be Achieved at Lower Cost



For years, manufacturers of home appliances have paid a heavy toll in shipping damage claims. Early attempts to correct this took the form of heavy car bracing—with costs for materials alone running as high as \$17 and more.

Signode field engineers, working with shippers and carriers, developed this modern method of carload bracing—a scientific combination of steel strapping and lightweight wood bulkheads.



The results are typified by this on-arrival picture of a carload of kitchen ranges. Damage—none; cash savings on materials used—\$7.16; reduction in dunnage weight—115 lbs.!

**it's a fact
to remember!**

Regardless of what, where or how you ship, the improved packaging and shipping techniques constantly being developed by Signode steel strapping specialists are worth investigating . . . today if you're engaged in **DEFENSE** or **ESSENTIAL** civilian production . . . or **TOMORROW** when the need to cut costs and increase sales may become more urgent than ever before.

SIGNODE STEEL STRAPPING COMPANY

2639 N. Western Ave., Chicago 47, Ill.

Offices coast to coast. In Canada: Canadian Steel Strapping Co., Ltd.
Foreign subsidiaries and distributors world wide.

this seal



means security in shipping

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"I saw your ad in finish"

CLASSIFIED ADVERTISING

FOR SALE

Photovolt Reflectometer	\$ 75.00
G. E. Thickness Gauge.....	75.00
Frantz Ferro-Filter, Rect. ...	165.00
Rotospray	50.00
50# Ball Mill, complete with motor and drive	175.00

Address reply to Box 951, c/o finish
360 N. Michigan Ave., Chicago 1, Ill.

NEWS → from Page 67

been in charge of the company's design and engineering work in porcelain enameling furnaces and plants.

LARGE ORDER FOR DEVILBISS

The DeVilbiss Company announced that it has received one of the largest orders in its history for air compressor outfits from the Tank-Auto-motive Center of the Ordnance Department, Detroit. Details were not given.

AMERICAN-STANDARD

BUYS ACME METAL PRODUCTS

Acquisition of Acme Metal Products Corporation of Blue Island, Illinois, was announced by American Radiator & Standard Sanitary Corporation. Terms were not disclosed.

Acme, a leading producer of steel kitchen cabinets, will be operated under its present name as a wholly owned subsidiary of American-Standard. No changes in personnel or policies are contemplated, according to Theodore E. Mueller, American-Standard president.

JUDGING COMPLETED IN FOOTE'S LITHIUM AWARD PROGRAM

Foote Mineral Company reports that ACS judges have selected the top eight papers in its Lithium Award Program.

Charles S. Pearce, general secretary, the American Ceramic Society and secretary of the Award Commit-

DeVILBISS



NEW WAYS TO CUT FINISHING COSTS

DeVilbiss is constantly developing new and better equipment and methods to improve the finish on all types of products. Possibly there is new DeVilbiss equipment (see below) ideally suited to your finishing operations. Why not contact our nearest branch office or write us for complete information?



HOW MUCH CAN YOU SAVE WITH LOW PRESSURE SPRAYING?

There's a *convenient* and *sure* way to find out . . . contact your nearest DeVilbiss branch office. In many plants, many industries, DeVilbiss representatives have helped manufacturers save remarkable amounts with new DeVilbiss low pressure ceramic spray guns.

Here's why: New DeVilbiss low pressure guns need only 50 lbs. operating pressure instead of the 70, 80 or 100 lbs. required by old

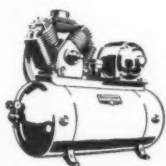
methods. Consequently, power savings are substantial. Low pressure spraying reduces overspray to the extent that material consumption is often cut as much as 35%.

DeVilbiss low pressure guns can be moved more slowly, more evenly, requiring fewer passes. Operator fatigue is reduced, production increased. There are fewer rejects, less reworking and a lower cost per unit.

May we apply our experience and technical skill to your finishing problems? Contact our nearest branch office or write us.

THE DEVILBISS COMPANY Toledo, Ohio

Windsor, Ontario • London, England
Santa Clara, Calif.
Branch Offices in Principal Cities



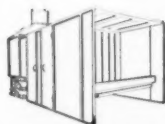
Air Compressors



Hose and Connections



Spray Guns



Ceramic Spray Booths

FOR BETTER SERVICE, BUY

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tee, turned over the list of winners and their papers to Foote executives recently. Winners will be announced October 12.

The Lithium Awards have a two-fold purpose: (1) to stimulate scientific research in the use of lithium and (2) to make results of this research generally available.

ADMIRAL PLANS \$7 MILLION PLANT EXPANSION JOBS

Admiral Corporation has disclosed plans for a \$7,000,000 plant expansion, including two large projects in Chicago and one in Galesburg, Ill. The entire program will be financed from present working capital, Admiral noted, with no borrowing required.

John B. Huarisa, executive vice president, said the long-range program calls for over 740,000 additional square feet of floor space.

Chicago projects include a \$2,000,000 multi-story building with 300,000 square feet of floor space for defense work, and a \$1,500,000 seven-story office building. The Galesburg project will cost \$1,000,000 and add 120,000 square feet of floor space. Additional distribution facilities in Chicago, New York and Boston will amount to \$2,500,000, the company said.

ENAMELERS SHOP PRACTICES FORUM IN COLUMBUS, OCT. 10-12

The annual shop practices forum of the Porcelain Enamel Institute will be held this year at Ohio State University, Columbus, Ohio, October 10, 11 and 12. (Complete program details will be published in the October issue of *finish*).

WEST COAST ENAMELERS TO MEET SEPTEMBER 7

The next dinner meeting of the Pacific Coast Enamellers Club will be held at Rodger Young Auditorium, Los Angeles, September 7, reports Hyman Leggett, Club secretary-treasurer. Guest speaker will be Ed Hansen, of Ferro Corporation, who will speak on "Shop Problems."

"DOC" BERGER DIES

Adolph L. "Doc" Berger, 63, one of the outstanding aeronautical engineers at Wright-Patterson Air Force Base, died recently. He is credited with being one of the first to visualize the possibilities of ceramics in the

aeronautics field. He initiated in 1943, an Air Force research and development program for the application of ceramics to aircraft power plant construction. This program is now one of the most comprehensive of its kind.

HAMILTON BUILDS FOR CONTINUOUS FLOW OPERATION

A recent investment of over a quarter million dollars at Hamilton Manufacturing Co., Two Rivers, Wisconsin, involves three carrier lines, one for gray and green finished equipment, another for white lines such as medical and under-the-sink cabinets, and the third, an electrostatic line for the Hamilton clothes dryer. The change eliminates all pos-

sibility of a bottleneck in steel finishing that it might be kept in continuous operation.

A three-story addition on the roof of the plant involves an air conditioning setup moving 160,000 square feet of air per minute; with gas ovens for the baking of finishes in a range of 280 to 350° F.

STEEL KITCHEN CABINET GROUP TO DISCUSS INDUSTRY STATUS AND STEERING COMMITTEE REPORT, SEPT. 12

The status of the steel kitchen cabinet manufacturer in the light of changes in the Defense Production Act and latest governmental regulations will be considered at a meeting of the industry in Cleveland, September 12. Also to receive attention is a report from the Industry Steering Committee.

At the June 6 industry meeting of the kitchen cabinet manufacturers, the second such meeting held in 1951, there was appointed an Industry Steering Committee of 10 executives from company plants who were asked to consider the advisability of a continuing national organization in the steel kitchen cabinet industry. The Committee was asked to study the assistance that might come to buyers and manufacturers through such an arrangement.

At the Committee's first meeting in Cleveland, July 24, much constructive material was considered, and a full report will be presented before the September 12 meeting in Hotel Cleveland, starting at 9:30 in the morning.

All manufacturers of steel kitchen cabinets, including sellers who have cabinets made for themselves under their own brand name, are invited to be present. A full and frank discussion of the report is planned, and the

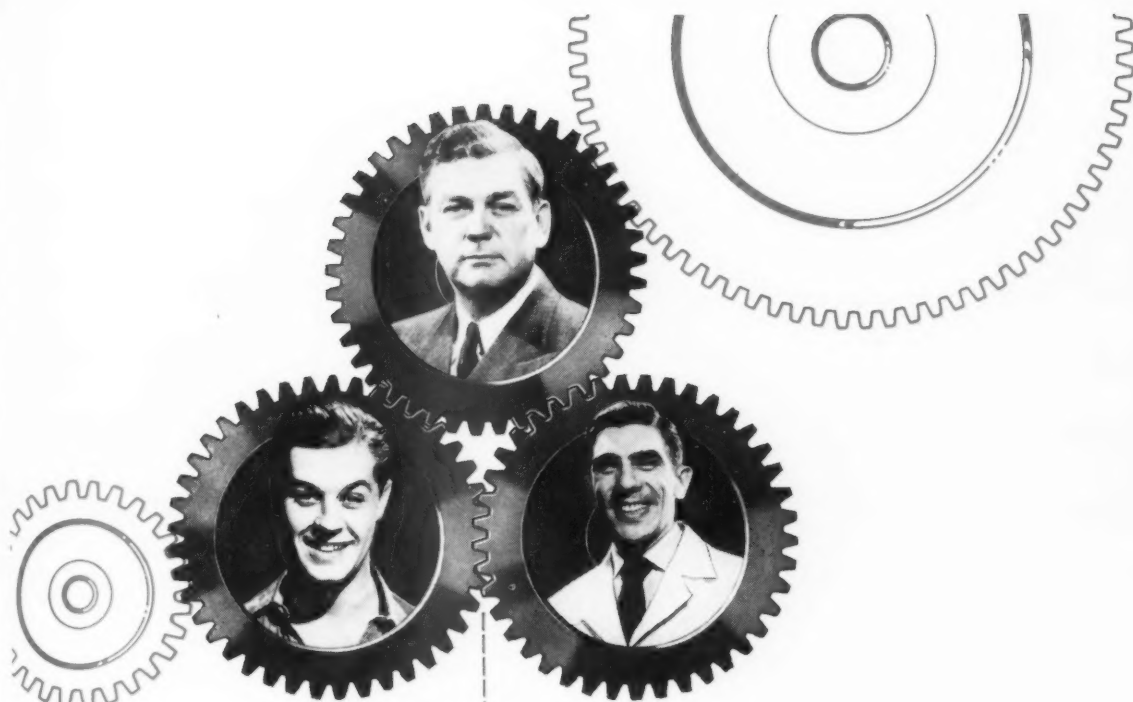
comments of top company executives are desired.

In commenting on the forthcoming meeting, M. M. Miller, president of Miller Metal Products, Inc., Baltimore, and chairman of the Steering Committee, states:

"It is highly important to our customers, the national emergency effort and our own industry that we review periodically our status in the present rapidly changing economy.

"At the first industry meeting of steel kitchen cabinet manufacturers held in February of this year, there was pronounced interest in a continuing national organization among this group of producers. The matter was left to develop in its own way, however, which resulted in the request at the June 6 industry meeting for the appointment of a Steering Committee to survey the possibilities and report to the manufacturers (July 1951 finish).

"The September 12 meeting will evaluate the industry position as of that date, and hear the findings of the Steering Committee. In justice to their own situation, it is urged that the top executives of those companies described be present in Cleveland, September 12."



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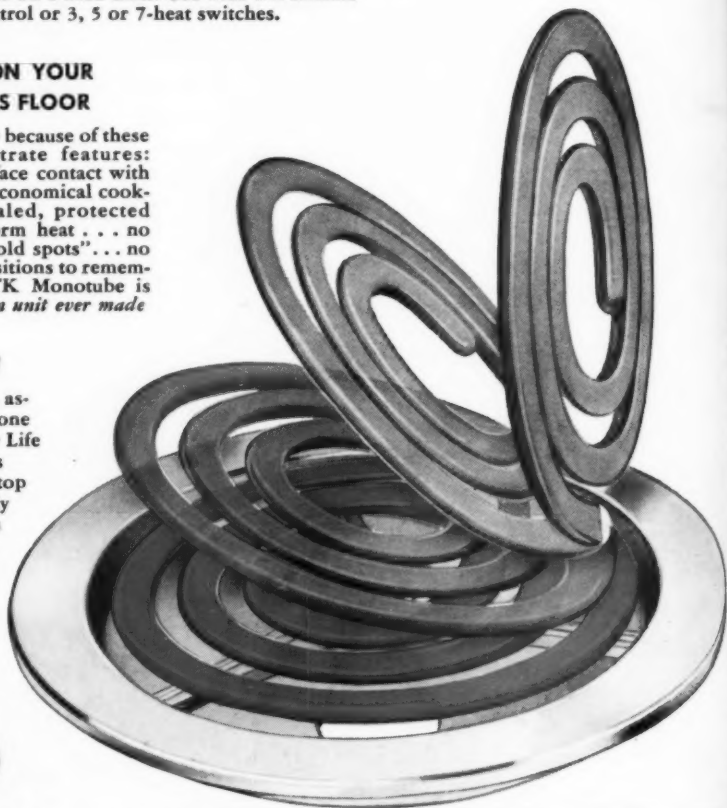
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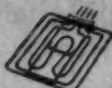
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